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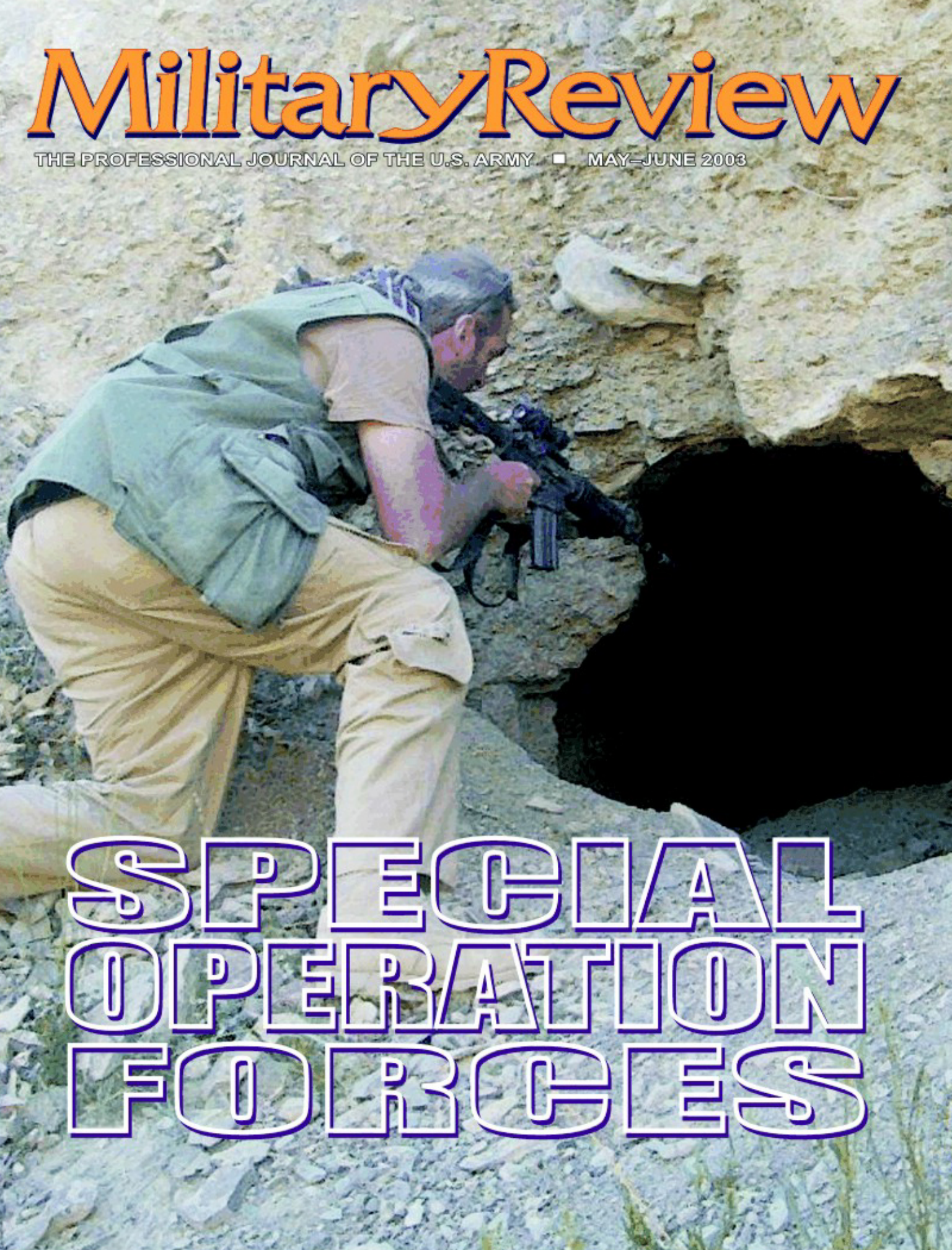

SPECIAL OPERATION FORCES

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CONTENTS

From the Editor

In this issue, *Military Review* looks at several relevant topics for the military professional, including current operations in Afghanistan and Iraq, the Stryker Brigade Combat Team (SBCT), and Officership.

Special operations forces have stepped from the shadows to take a prominent place among U.S. Army forces fighting terrorism. Two articles draw from actual experiences in Afghanistan to consider how the Army might adjust doctrine to reflect lessons learned in the crucible of combat. A third article relates how electronic attack aircraft were integrated into conventional operations in Afghanistan. A fourth article argues that killing or kidnapping an enemy's political leadership is a legitimate act of war and can lead to quick and decisive victory. Also included is a look at the challenge that child combatants pose for U.S. and coalition forces in Iraq and elsewhere.

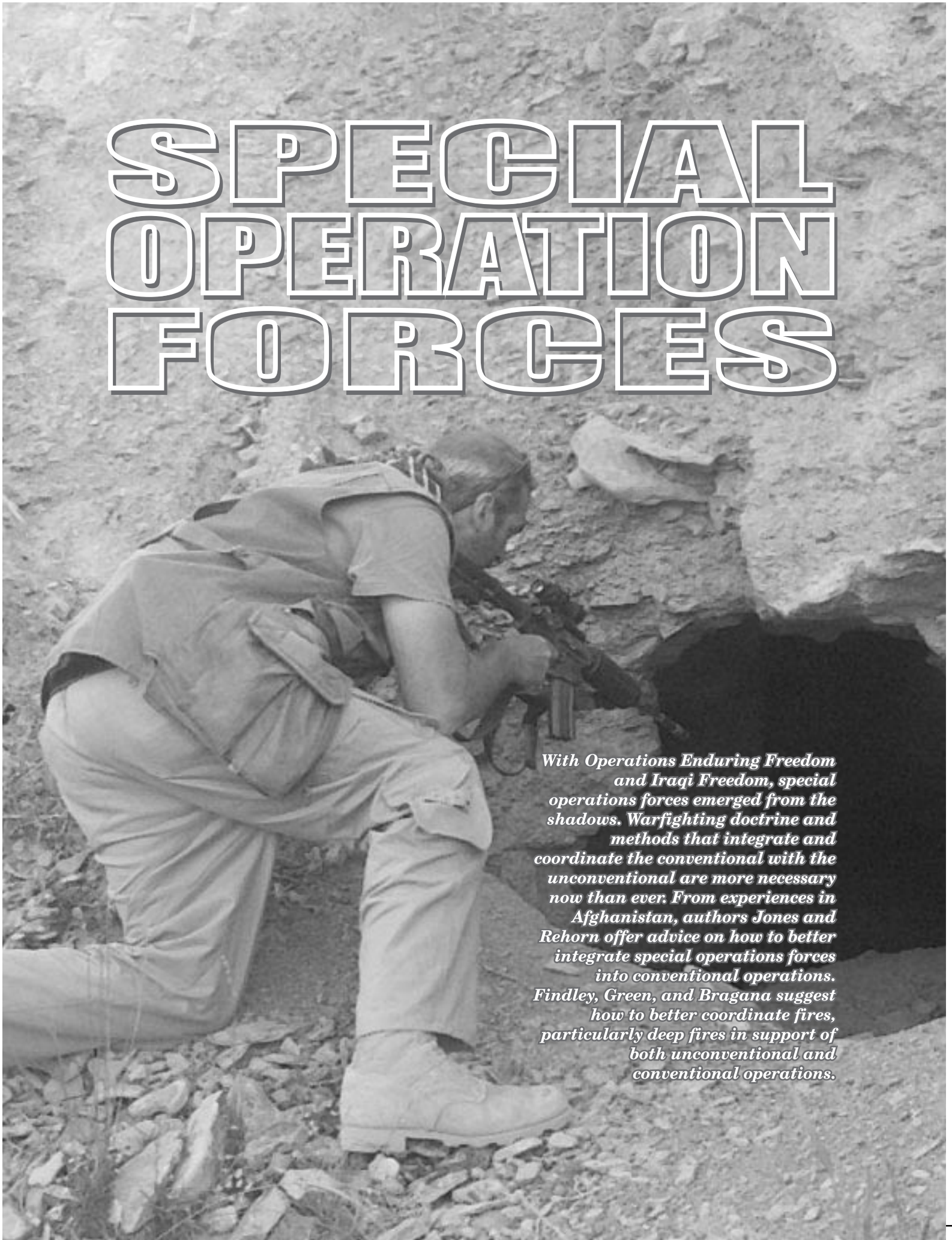
Although Operations Enduring Freedom and Iraqi Freedom dominate the headlines, the Army continues with Transformation. Two authors provide in-depth analysis of where the Army's first Stryker Brigade Combat Team is in regard to training and readiness. Another examines the SBCT's command, control, communications, and computers, intelligence, surveillance, and reconnaissance function.

In this issue *Military Review* completes its series on Officership. One article examines the significant but overlooked role that organizations play in developing professionalism in Army officers. One author argues that for genuine and meaningful transformation, officer development cannot occur without officers cultivating the practice of lifelong study of military art and science.

Rounding out this issue are two articles: one on organizational effectiveness and how it might help transform officer development; the other about how to develop leaders to maintain the high level of military competence that the Active Army, U.S. Army Reserve, and the U.S. Army National Guard have achieved by training to common tasks, conditions, and standards. The final article relates how DARPA is developing information and intelligent command and control systems, which are key to a successfully fielded future combat system.

MRR

SPECIAL OPERATION FORCES



With Operations Enduring Freedom and Iraqi Freedom, special operations forces emerged from the shadows. Warfighting doctrine and methods that integrate and coordinate the conventional with the unconventional are more necessary now than ever. From experiences in Afghanistan, authors Jones and Rehorn offer advice on how to better integrate special operations forces into conventional operations. Findley, Green, and Bragana suggest how to better coordinate fires, particularly deep fires in support of both unconventional and conventional operations.

INTEGRATING SOF INTO JOINT WARFIGHTING

Lieutenant Colonel Mark Jones, U.S. Army,
and Lieutenant Colonel Wes Rehorn, U.S. Army

OPERATION Enduring Freedom in Afghanistan thrust special operations forces (SOF) into the spotlight of the U.S. military and the world. Despite this attention, these quiet professionals are only part of the U.S. Armed Forces team. They are members of a joint team made up of all military forces, along with the other elements of national power, and many multinational partners.

This article addresses many of the areas that SOF is pursuing to gain greater integration within this team. We have limited the scope of the article in several key areas. To stay focused on integration, we do not discuss the capabilities and limitations of SOF. We also do not discuss two key elements of SOF—psychological operations forces and civil affairs forces. Finally, we do not go into detail on integration within the interagency and multinational arena.

The article addresses theater SOF, the role of a theater special operations command (SOC), employment options for employment of a joint special operations task force (JSOTF), and how full integration of SOF within a joint force enhances operations.

[SOFs are] high-demand and low-density forces that are often given politically sensitive or operationally complex high-risk missions. These missions demand special operations expertise in planning and execution. This requires the SOC to maintain a theater-strategic perspective focused on condition setting, while maintaining agility to respond to emergent requirements.

Theater SOF and the Role of SOC

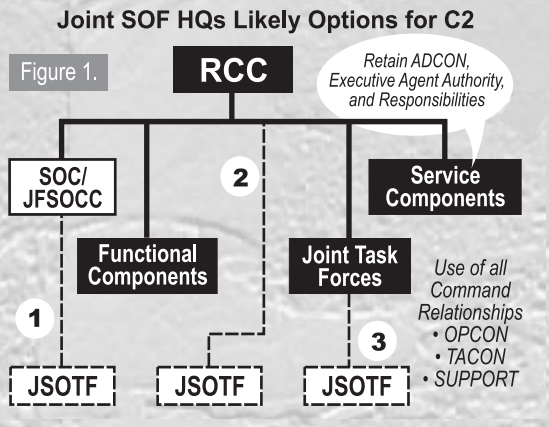
The regional combatant commander (RCC) has combatant command of assigned SOF in the theater, with operational control (OPCON) exercised for the most part by the theater SOC. The theater service component commands exercise administrative control (ADCON) of their respective service SOF for common service type activities.

The SOC commander is normally the supporting commander and provides SOF for employment by the RCCs. He might also be designated a supported commander in certain situations by the secretary of defense to conduct or coordinate operations.

Each of the RCCs has a theater SOC. The SOC commander is normally an Army or Air Force brigadier general or a Navy rear admiral. These SOC commanders have three major roles similar to those of the theater-service component commanders. The SOC commanders have OPCON of attached and assigned SOF within the area of responsibility (AOR), advise the RCC and staff on employment of SOF, and when warranted, form operational headquarters to conduct special operations.

In every theater, SOF, like other elements of the Armed Forces, conduct operations throughout the RCC's AOR. Because of their training, equipping, and experience, these forces often provide the RCC with a presence as global scouts throughout the AOR. They are, however, high-demand and low-density forces that are often given politically sensitive or operationally complex high-risk missions. These missions demand special operations expertise in planning and execution. This requires the SOC to maintain a theater-strategic perspective focused on condition setting,

Figure 1.



More than ever before, the RCCs are concentrating on focused theater security cooperation and condition setting in the AOR to support national interests and potential military operations. This preparation of the battlespace consists of both intelligence and operational activities.

while maintaining agility to respond to emergent requirements. This necessitates SOF to operate under centralized planning and control to maintain strategic and operational agility and to ensure mission success.

Theater SOF Employment Options

Excluding the psychological operations and civil affairs units, SOF are commonly employed in three ways. The RCC might continue to command SOF through the theater SOC. The SOC can either directly control SOF in a joint special operations functional component command role or form a subordinate JTF (that is, a JSOTF) to control SOF for a specific period or in a specific operational area. The SOC might be designated as either a supported or supporting commander vis-à-vis an RCC-designated functional component or JTF to conduct operations in the AOR.

The RCC also might exercise direct control of a JSOTF if necessary. This situation might occur when the RCC wants to maintain direct control of highly sensitive operations or when the RCC requires a high degree of agility from the SOF in response to rapidly evolving situations elsewhere in the AOR.

The RCC, with the SOC commander's recommendation, might also opt to attach SOF in the form of an established JSOTF under the control of a subordinate JTF. However, this control might not always be absolute. The RCC might choose to retain some SOF assets under OPCON of the SOC for theater-wide employment. This would give him the agility to anticipate and respond to other requirements in the AOR. The RCC also might limit tasking authority of attached SOF assets for specific purposes within the capability of the JTF to control.

An important organizational consideration for all of these employment options is that the employing headquarters has the special operations expertise and systems to support the planning, control, and operational support of SOF. This expertise ensures that SOF is best employed within existing capabilities to support the joint warfight.

The typical JSOTF organization parallels that of most other JTFs. It has service force commanders like any other joint force. ADCON lines still exist for service responsibilities. There are also similarities on the air side. The JSOAC is functionally organized just as the JFACC is for an RCC or JTF commander. Subordinate task forces of the JSOTF are organized on either a functional basis (for reconnaissance or direct action) or geographic basis (by directing their focus to certain portions of the joint operations area to best conduct operations). SOF has experience working in the coalition and interagency environment. Coalition operations might be integrated at the tactical level or in more of a parallel command structure dependent on the nation involved; amount of authority delegated from the coalition force's government leadership; the capability and proficiency of the forces; and the mission and environment. SOF and the interagency also have experience working together. Both understand the value of unity of effort, and they work together toward common goals without worrying about achieving pure unity of command.

Taking the above options for employment of SOF in a theater, the RCC might employ a progression of organizations as he addresses the full range of military operations. It might start with a peacetime organization with the SOC and other components supporting theater security cooperation.

In a crisis, the SOC can quickly form a small, tailored JTF, normally SOF-centric to provide rapid crisis response. The SOCs are inherently joint and are organized, equipped, and trained to the task of rapidly forming a JSOTF. The SOC can also perform as a lead JTF (such as the JTF-510 model in Pacific Command) to develop the situation as the RCC is forming a larger, more robust JTF. At a later point, the SOF-centric JTF can be designated a JSOTF and subordinated to the larger JTF. The standing joint force headquarters, currently being developed by the U.S. Joint Forces Command with the RCCs, provides the RCC and prospective JTF commanders an additional capability for command or augmentation throughout this progression.

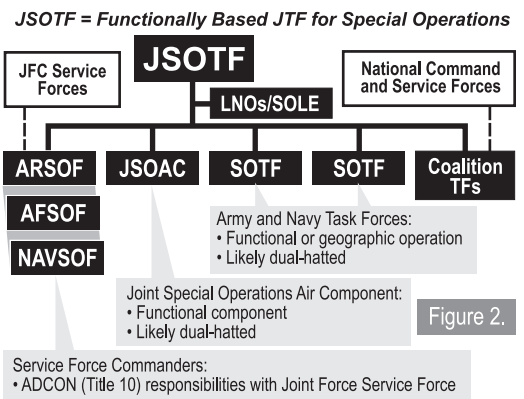


Figure 2.

Battlespace preparation. More than ever before, the RCCs are concentrating on focused theater

US Navy

Navy SEALs discover a cache of munitions and weapons during a sensitive site exploitation mission in Afghanistan's Jaji Mountains, 12 February 2002.

SOF must be well integrated into the battlespace. The key to success is the interrelationship of specified areas of operation, the authority of the designated supported commander, and how SOF maintains SOF expertise in planning and execution of SO missions that satisfy the supported commander's needs. Typically, a special operations command and control element or Navy special warfare task unit is collocated with the supported force commander to control subordinate forces within the respective AO.

security cooperation and condition setting in the AOR to support national interests and potential military operations. This preparation of the battlespace consists of both intelligence preparation of the battlefield (IPB) and operational preparation of the battlefield (OPB) activities. SOF can support other government agencies in IPB activities and conduct OPB under RCC control. In this latter role, SOF conducts pre-crisis activities to gain access and understanding of the AOR and conducts advance force operations to set conditions for anticipated military operations. It is important for potential JTF commanders, staffs, and components to understand the SOF's role in the IPB and OPB. SOF and government agencies will likely be in the area as a JTF builds up and as forces deploy and prepare for operations.

Integration in employment. The theme of integration versus deconfliction has relevance in the SOF community. While SOF still receives key tasks from the higher joint force commander (JFC), synergy from lateral collaboration and the meeting of peer component needs has increased in accordance with priorities established by the higher commander.

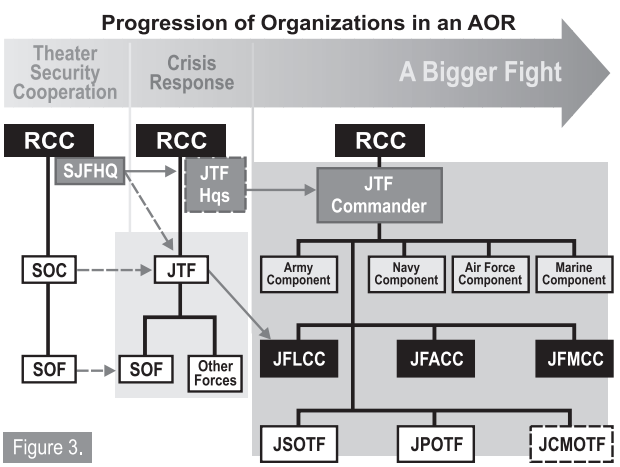


Figure 3.

Integration in planning. SOF subject matter expertise is essential at all headquarters that work with SOF. SOF remains an advocate of the liaison officer (LNO) performing as the JSOTF commander's personal representative at the gaining headquarters. Physical LNO and virtual presence (through newly developed collaboration tools) are

important to optimize integration and effectiveness of the force. A stumbling block in the past has occurred when the LNO is relegated to performing traditional staff activities such as updating the situation map or monitoring JSOTF activities. These are functions and responsibilities of the headquarters staff; these SO-related responsibilities are JTF SO staff-element duties, wholly different from the plans-centric and commander-representative functions of an LNO. The LNO plays an important role in facilitating supported/supporting command relationships with adjacent components by ascertaining and assisting in the supported commander's staff planning. Time and again, component LNOs to the JSOTF have significantly enhanced situational awareness and integration of planning and operations.

SOF communications are more interoperable with the rest of the joint force than ever before, using the Secure Internet Protocol Network and the Joint Worldwide Intelligence Communications System to pass information. The JFC must develop the communications and multilevel security policies to interoperate with coalition partners.

Integration in the battlespace. SOF must be well integrated into the battlespace. The key to success is the interrelationship of specified areas of operation, the authority of the designated supported commander, and how SOF maintains expertise in planning and executing SO missions that satisfy the supported commander's needs.

Typically, a special operations command and control element (SOCCE) or Navy special warfare task unit (NSWTU) is collocated with the supported force commander to control subordinate forces within the respective AO. It provides direct support to the supported commander and exercises tactical control of subordinate forces. These supported and supporting command relationships work well to enhance the joint fight.

The SOCCE and NSWTU, with appropriate LNOs, make the supported/supporting command relationship effective and agile. This is not the only way to work command and control (C2), but it is a good starting point. As always, the JFC has the authority to organize to best accomplish the mission. SOF reporting also is integrated to enhance joint operations. Reporting is performed within the parameters established by the supported commander and within his specified timeliness and content parameters. This often entails a SOCCE, NSWTU, or the special operations liaison element to directly terminate an operational unit's communications, which can reduce sensor-to-shooter times to minutes.

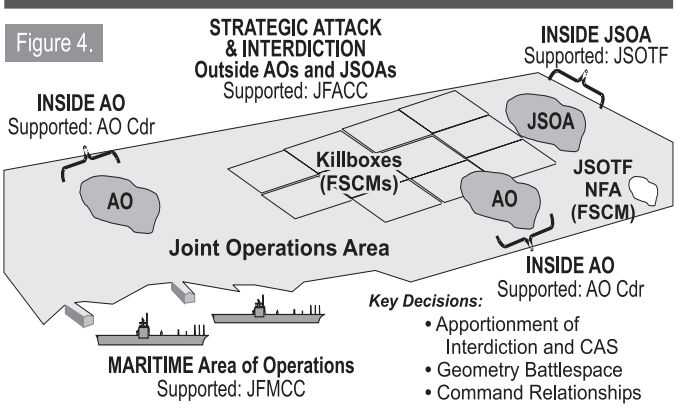
Targeting and fires. As stated in Joint Publication (JP) 3-09, *Doctrine for Joint Fire Support* (12 May 1998), designation of areas of operation and supported commanders are key to effective and responsive fires. This is true on a linear, contiguous battlefield and on a noncontiguous battlefield.

The noncontiguous environment has many associated challenges in the orchestration of fires and maneuver, much as in Afghanistan. In the noncontiguous environment, battlespace geometry and fire support coordinating measures (FSCM) are still needed. Through insights gained from OEF, the JFC has several key decisions to make. First is an upfront prioritization and apportionment to ensure that maneuver and fires commanders are provided the resources to accomplish their missions. Second is the designation of areas of operation or joint special operations areas that give authority and responsibility to ground force commanders. These areas might be much smaller than previously seen. They also might be gridded and overlain with kill boxes that are activated and deactivated as forces move. Last is designation of supported and supporting commanders to fix accountability and provide requisite respective authority for operations and coordination.

SOF has been working with the joint community and the services on how to improve support time-sensitive targeting. SOF has found that reporting can be quite responsive, even in over-the-horizon reporting. SOF and the services are still working additional TTPs in the area of terminal-guidance operations. This is especially true with the munitions on the battlefield today. The Army and the Air Force also have established rapid-fires clearance processes within the joint-fires element at the JSOTF. Key to this is accurate force tracking and common operational pictures.

The Noncontiguous Battlefield

Figure 4.



Force tracking. Force tracking is taking on additional importance in noncon-

tiguous and fast-moving operations. Friendly and enemy force tracking and dissemination are important to mission success and in preventing fratricide. It is a continuing challenge for the JFC to establish a clear command operations picture architecture and to specify the timeliness of manually and automatically provided feeds. In most cases, SOF provides full versus discrete (or filtered) feeds to the COP. We have found that fratricide caused by a lack of common situational awareness is a greater threat to Army personnel than is the potential compromise of SOF locations over these secure COP mechanisms.

Logistics and communications. SOF relies heavily on the services for much of its service support. This includes base operations support, force protection, and common services such as fuel and rations. Funding also is a complex business on today's battlefield. JFCs and their staff must be familiar with Title 50-type funding, especially when working with and supporting indigenous forces.

SOF communications are more interoperable with the rest of the joint force than ever before, using the Secure Internet Protocol Network and the Joint Worldwide Intelligence Communications System to pass information. The JFC must develop the communications and multilevel security policies to interoperate with coalition partners. Multilevel security is often the greatest challenge for both SOF and the JFC.

Risk and Mission Approval Authorities

In recent exercises and operations, the joint force commander often faced a dilemma in balancing the risk of accomplishing strategic objectives with the risk to the forces conducting the operation. This relationship of strategic to tactical risk might in fact be inversely proportional; crafting the operation to afford low risk to the force might incur unacceptable risk to the overall strategic objective. Another observation is that as tactical risk increases, strategic risk also increases because of a greater possibility of tactical failure. An example of this is in the arrangement of operations. Sequential operations might allow for lower tactical risk, but at the risk of the target getting away or conducting asymmetric attacks elsewhere to attain his objectives. Simultaneous operations might have a higher risk to the force because of the "bridge too far" aspect but often get to strategic objectives more quickly.

Special operations forces can help mitigate this dilemma by operating at the high end of the tactical risk domain. This brings us back to JFC decisions of how to mitigate tactical risk and the delegation of mission-approval authority. Delineation of mission-approval levels allows designated subordinates to operate within the commander's intent and to take advantage of rapidly emerging situations on the battlefield.

One of the best ways for JFCs to articulate mission-approval levels is through the use of a mission-approval matrix, which allows the JFC to assign the appropriate mission-approval authority based on a number of criteria: political, economic, informational sensitivities, risk to the force in terms of mission accomplishment, use of low-density assets, and collateral damage. The type of mission also is a factor, depending on whether it is a new or recurring type of mission. This approval process allows subordinates to work within the commander's intent while still retaining the appropriate controls necessary for oversight.

Joint warfare is exactly that; it is joint, not component warfare. SOF is one of the team members in the joint team. Joint warfare is about working together to get the mission accomplished. Gone are the stovepipe days where one had to own a force (for example, OPCON or TACON) to get support and unity of command. With the increase in use of the supported and supporting command relationship, synergy, trust, and confidence has grown between the members of the joint force.

We have noted some key areas of emphasis that are continually reinforced in both exercises and real-world operations. A key emphasis area is more definitive prioritization of supporting efforts to ensure that everyone knows the priorities and allocates their efforts to support the joint fight versus only their component operations. A structured, collaborative environment can assist in the development of the best concept of operation by gaining the insights of all the players. This structured and robust collaborative environment can allow for the exchange of information and intent among the JFC, his staff, the components, and also between JTF warfighters. What is important is determining acceptable risk and defining clear lanes of authority for mission approval. ***MR***

Lieutenant Colonel Mark Jones, U.S. Army, is a special operations aviator and a member of the Special Operations Command of the U.S. Joint Forces Command (SOCJFCOM). He has worked with the Theater Special Operations Commands in both exercises and real-world operations and with the conventional joint force trainers at the Joint Warfighting Center in Suffolk, Virginia.

Lieutenant Colonel Wes Rehorn, U.S. Army, is a Special Forces officer and a member of the Special Operations Command of SOCJFCOM. He has worked with the Theater Special Operations Commands in both exercises and real-world operations and with the conventional joint force trainers at the Joint Warfighting Center.

SOF ON THE CONTEMPORARY BATTLEFIELD

Colonel Mike Findlay, U.S. Army;
Lieutenant Colonel Robert Green, U.S. Army;
and Major Eric Braganca, U.S. Air Force

SPECIAL OPERATIONS forces (SOF) and joint air power achieved spectacular results during Operation Enduring Freedom (OEF) in Afghanistan. This was especially true in the first few months when the eyes of America and the world were watching. The initiative, courage, and strength of character of American fighting men and women shined, and we are all indebted to them.

We decided to investigate the integration of air power with special operations on the ground. We did this to gain insights into the challenges U.S. Armed Forces faced in Afghanistan and how frontline commanders worked together to overcome them.

The integration of airpower with special operations has significant doctrine, organizational, and training implications. As the Joint SOF trainer, Special Operations Command Joint Forces Command (SOCJFCOM) sent SOF joint training teams (JTTs) to assist joint special operations commanders in OEF. They shared insights, practices, and knowledge of the best tactics, techniques, and procedures (TTPs) to employ SOF. While successful, SOF JTTs could have done more to improve air-ground fire integration.

Integrating air power and special operations is not new. In fact, SOF and the joint air community are adept at close integration, and the men on the ground did a great job working with air support. However, at the operational level of war, integration on a noncontiguous battlefield with large indigenous maneuver forces was a new challenge to many. We saw a different paradigm from the traditional one of airpower in support of large maneuvering corps and division elements on a linear battlefield. We learned and adapted. Afterward, the operators and the writers of this article examined the challenges and solutions of fires integration in noncontiguous operations.

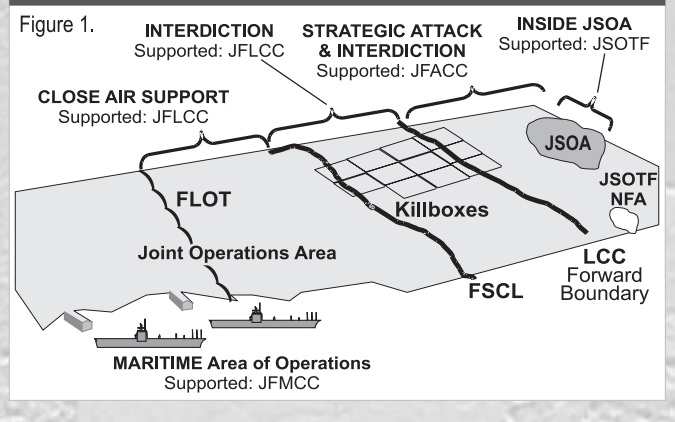
We have learned from OEF and hope that these insights are of assistance in future operations. We omitted detailed discussion of the SOF task organization and did not address the multiple SOF headquarters (HQs) effect on the combined force air component commander (CFACC) coordination nor the U.S. Army Central Command's (ARCENT) role as the combined force land component commander (CFLCC).[1]

In Afghanistan during OEF, U.S. forces operated in a noncontiguous battlefield and discovered numerous challenges to coordinating fire with maneuver when no traditional boundary lines demarcated areas of operation. We will discuss these challenges, how commanders overcame them, and offer insights for further improvement. These are key future challenges and offer insights to potential solutions. While these challenges and subsequent insights have a special operations perspective, many have value to future conventional force operations on noncontiguous battlefields.

We address challenges in battlespace geometry, command relationships, air apportionment, and fire support processes for noncontiguous environments. We then share insights on the increased use of

Fires and Fire Support in the Traditional Linear Battlefield

Figure 1.



gridded areas of operation in conjunction with overlaid killboxes, the value of ground-directed interdiction (GDI) initiatives, greater SOF leverage of joint targeting processes, continuous Blue-Force tracking, and more robust and better trained fire support organizations for SOF. Increased use of delineated areas of operation (AOs) and killbox management techniques will clarify fire support responsibilities. Increased SOF understanding and participation in the targeting process will result in better input into the apportionment process, timely target nominations, and more responsive fire support. This will enable SOF to take full advantage of the effects that joint fires can bring to the fight by better leveraging planned interdiction and strategic attack rather than primarily relying on close air support (CAS). We also support more investigation of the GDI concept in which the ground force identifies targets and directs interdiction fire. We concur with current emerging thoughts on developing an improved air support organization for special operations headquarters (much like the Air Support Operations Center [ASOC] in the corps headquarters) to better facilitate actual execution of fire support for special operations.

Many in SOF and the Air Force have focused on specific technical and tactical training-related challenges for the request and control of close air support. While these might offer some improvements, we believe that harnessing the power of existing command and control (C2) tools offers the best opportunity for integration.

Battlespace Geometry and Command Relationships

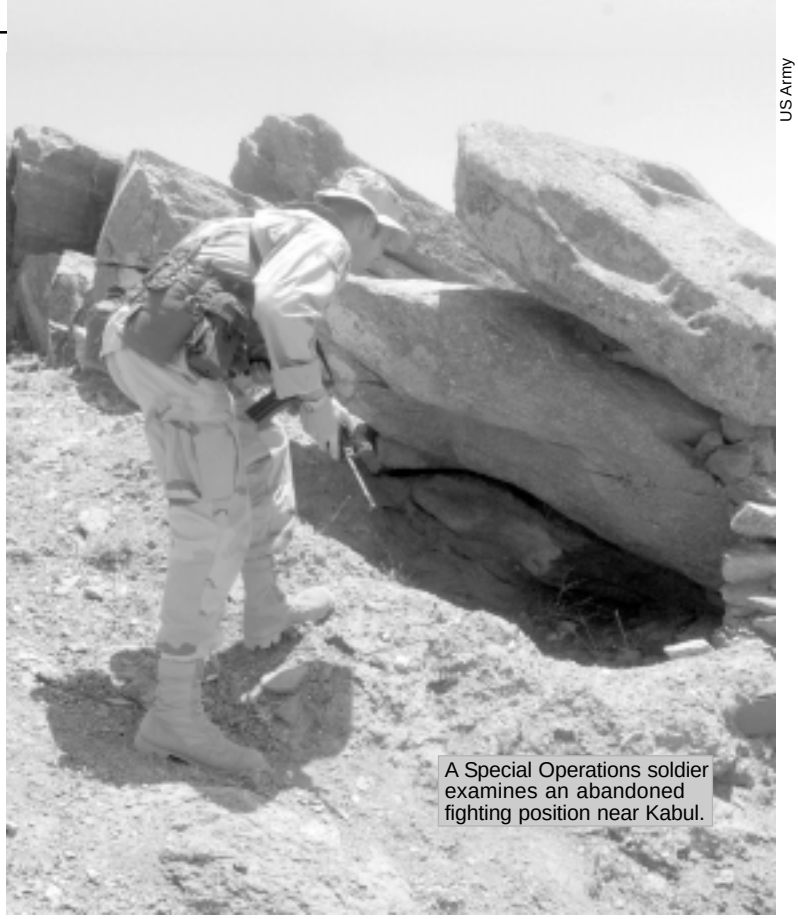
Through the first months of OEF, there was minimal establishment of any subordinate to CENTCOM joint operations areas (JOA) or ground AOs in Afghanistan. The CENTCOM commander did not initially assign the land mass of Afghanistan to the theater special operations command (SOC), a joint task force (JTF) commander, or a ground commander. None of these commands was readily capable of performing the functions of targeting, enemy situational awareness, or fire clearance in this large area. Instead, Afghanistan was retained as a CENTCOM area of responsibility. Later in the campaign, the land mass was assigned to the CFLCC and subsequently to the forward land component, the 10th Mountain Division. Even then, it could be argued that the CFLCC was not capable of performing all the functions of owning an area of operation.[2] Nor was the special operations component manned or trained to control such a large area. Neither organization had the C2 capability or the forces to monitor and control such a large area. It was only with the activation of CJTF-180, a joint task force formed around the XVIII Airborne Corps headquarters, that a subordinate joint command was able to monitor and control the Afghanistan AO, designated as a coalition joint operations area (CJOA).

This initial absence of land boundaries, and the significant and widespread maneuvering of SOF and Northern Alliance forces (and, later, of conventional ground forces) in noncontiguous operations throughout Afghanistan, presented challenges in the traditional thinking of fire support in relation to maneuver. Traditionally, ground maneuver occurs in the ground commander's area of operations. Operational design has always included two fundamental components: a mission, and a designated area of operations (battlespace geometry) in which to accomplish that mission. This battlespace geometry is important, especially to set the structure by which the joint force air component commander (JFACC) and the ground commander coordinate their operations. Numerous doctrinal publications explain the relationship between these two commanders.

With its Northern Alliance partners, SOF was a maneuver force requiring joint fire support, just like any other friendly conventional ground force. Therefore, a key challenge was how fire support would assist SOF as a maneuver force without a designated area of operation.

Joint Publications 3-0 and 3-09 are two key documents. These publications state, "The land and naval force commanders are the supported commanders within the areas of operations designated by the joint force commander (JFC). Within their designated AOs, land and naval force commanders synchronize maneuver, fires, and interdiction. To facilitate this synchronization, such commanders have the authority to designate target priority, effects, and timing of fires within their AOs."[3] These publications also address the JFACC's normal authority and responsibilities outside of ground areas of operation and joint special operations areas (JSOAs) as the supported commander for interdiction and strategic attack.[4]

During the first months of operations in Afghanistan, there was minimal battlespace geometry, no designated JSOAs or ground AOs, and only the use of fire support coordinating measures (FSCMs) such as no-fire areas (NFAs), restricted-fire areas (RFAs), and killboxes. By definition, an FSCM is not a control measure; it is a coordinating measure for expediting or restricting fire support. Thus, one could argue that the CFACC was the supported



US Army

A Special Operations soldier examines an abandoned fighting position near Kabul.

Continuous Blue-Force tracking of SOF in noncontiguous environments enhances situational awareness and reduces the chance for fratricide. SOF should continue to pursue automated tracking means while refining manual tracking and updating techniques into the common operational picture when beacons are not available.

commander throughout Afghanistan because no established ground area of operation or joint special operations area existed.

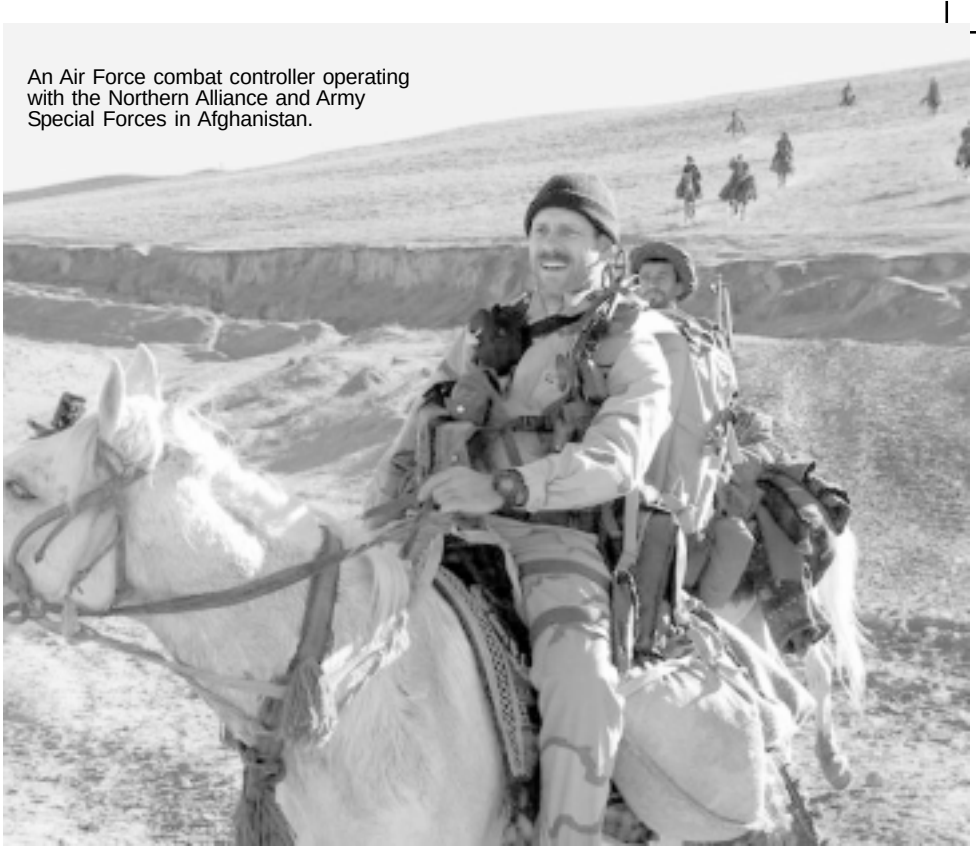
The CFACC was responsible for conducting interdiction and strategic attacks throughout Afghanistan and viewed SOF and the Northern Alliance (especially early in the war) as key sensors on the ground supporting CFACC fire. This perception and the use of SOF as an important human sensor has longstanding precedent. SOF and the Air Force have developed numerous tactics, techniques, and procedures to enhance these types of sensor-to-shooter operations. In Afghanistan, however, SOF had a different role. With its Northern Alliance partners, SOF was a maneuver force requiring joint fire support, just like any other friendly conventional ground force. Therefore, a key challenge was how fire support would assist SOF as a maneuver force without a designated area of operation.

In the fall of 2001, many saw Joint Special Operations Task Force (JSOTF)-North as a de facto ground commander conducting maneuver and requiring fire support. In fact, several documents specified the special operations component as the main effort during some of the early phases. This designation as the main effort refers to priority, however, and not to the command relationship. The documents never directed when or where the JSOTF was to be the supported commander relative to other components of the joint force (specifically the CFACC). This had significant implications for the JSOTF's relationship with the CFACC. Also, despite being a de facto ground commander, the JSOTF commander might not have known the extent of his authority to "designate the target priority, effects, and timing of fires" within his operational area. Nothing in terms of orders or directives expressly granted that authority; JSOTF-North did not have a designated area of operations or a designated supported commander.

Fortunately, the commanders and their staff at the JSOTF and CFACC worked around the vague command relationships and lack of battlespace geometry to develop target lists and to strike targets. A system of killboxes and fires clearance procedures minimized the potential for fratricide while providing agility and responsiveness. Also, the CFACC worked with the JSOTF to develop logical prioritized target lists, and it allocated airpower to directly support SOF on the ground. However, this was done informally. No clear battlespace geometry for SOF was established. The only significant change was establishment of a CJOA, a CFLCC, and later a JTF.[5] But these did not solve the requirement for SOF-controlled AOs and clear delineation of SOF as the supported commander to prioritize targets and designate required effects. This remains a key lesson learned. The regional combatant command and SOC need to focus on ensuring clarity in command relationships and battlespace geometry in future planning.

Air Apportionment and Fire Support Processes

Air apportionment in the first 10 days of OEF was focused on JOA-wide interdiction and strategic attacks against fixed targets. There was minimal initial apportionment of air assets to support SOF operations in either an interdiction or CAS role. This was probably due to several factors. First, the largely air-centric focus and robust air-control capabilities in CENTCOM had been developed for Operation Southern Watch in Iraq. In addition, SOF was not viewed as a maneuver force and lacked the battlespace geometry designating SOF as having an assigned JSOA. Last, there was doubt concerning SOF's ability to quickly take a decisive role in the ground fight with its Northern Alliance partners. Consequently, most of the air sorties being flown were for JOA-wide interdiction or strategic attack.



An Air Force combat controller operating with the Northern Alliance and Army Special Forces in Afghanistan.

US Air Force

In Afghanistan during OEF, U.S. forces operated in a noncontiguous battlefield and discovered numerous challenges to coordinating fire with maneuver when no traditional boundary lines demarcated areas of operation. . . . While these challenges and subsequent insights have a special operations perspective, many have value to future conventional force operations on noncontiguous battlefields.

The CFACC controlled these operations in accordance with CENTCOM targeting priorities and stated rules of engagement (ROE).

The strategic urgency of inserting SOF into northern Afghanistan, coupled with the ongoing air campaign and lack of a robust fire support (targeting) organization in the JSOTF headquarters and within the special operations liaison element (SOLE) at the CFACC, contributed to the small amount of sortie allocation to CAS or SOF-nominated interdiction in those early days. The SOC and JSOTF did not nominate many interdiction targets or receive a significant CAS allocation for distribution subsequent to their initial infiltrations.

There were good reasons for the small numbers of interdiction targets. Positive identification ROE and limited early-on interdiction of moving targets caused SOF air crews to plan routes around known enemy threats. In addition, the relatively new joint fires element (JFE) at the JSOTF was still learning and defining its role within the theater targeting and fires process.[6] Also, the air support organization at the JSOTF was not initially robust enough to gain and distribute allocated CAS, clear fires, and to coordinate CAS. At the CFACC, the SOLE was focused on deconflicting special operations air sorties with conventional air missions and deconflicting interdiction and attack sorties near ground SOF. SOLE was not focused on targeting. The SOF prioritized its efforts on deploying forces and planning and executing a major unconventional warfare campaign within the timeline constraints instead of concentrating on detailed theater-level coordination requirements for fires and targeting. Thus, with limited special operations-nominated interdiction or preplanned CAS, the CFACC initially provided fire support to SOF teams collocated with the Northern Alliance on an immediate CAS basis; that is, sorties were diverted from other missions.[7]

The operation at Masar-e-Sharif is an example of the difficulties of integrating fire in a noncontiguous environment. Minimal preplanned CAS and interdiction were developed for this attack. The JSOTF could not predict locations of opposition groups or mobile enemy forces. The nature of Afghan tribal warfare (with capitulating forces rapidly changing sides and joining their enemies) dictated against SOF overly planning for interdiction. There was no defined AO or JSOA within which the JSOTF could doctrinally designate target priorities and effects.[8] Therefore, JSOTF relied on the use of immediate CAS to meet fire support requirements.

The JSOTF could have taken more advantage of the targeting process to request interdiction support and preplanned CAS, but SOF was spoiled by fairly responsive air support. At this point, SOF was generating most of the targets, and there were abundant air assets not tasked with other requirements such as counter air. SOF needed only to identify targets, and the CFACC provided fire support. CFACC assets also were aggressive and responsive in fulfilling emergency requests where CAS was requested to support SOF teams in unexpected contact with the enemy and in danger of being overrun.

As the war progressed, the CFACC and SOF quickly developed the GDI concept in addition to normal CAS. The CFACC supported SOF requirements for interdiction of enemy forces that SOF could see and for which they provided targeting data but with whom they were not yet in direct contact.

In this concept, the CFACC generated interdiction and CAS sorties for Afghanistan without designating specific targets. The aircraft flew to the area and received targets as ground teams found and reported enemy forces. Ground elements directed a great number of strike platforms, including many nontraditional platforms such as B-52s. The JSOTF and the CFACC used killbox techniques to reduce possibilities of fratricide with this GDI. The JSOTF also established a more robust air support operations center (ASOC)-like capability similar to that of an Army corps ASOC. This ASOC-like organization coordinated with the CFACC, C2 aircraft, and strike platforms to facilitate joint fires. On-call strike platforms were handed off by the ASOC or airborne C2 platform, made direct radio contact with the ground team, and successfully struck their targets as designated.

GDI was beneficial and successful for two principal reasons. Most targets at this point were moving forces, not stationary facilities; and positive identification (PID) was often required in accordance with CENTCOM rules of engagement. However, several minor areas have been identified as requiring additional work for future operations.

First is battlespace geometry, the designation of areas of operation or JSOAs. This designation, in addition to standard FSCMs, assists in the targeting cycle process with its related apportionment, target nomination aspects, and fires clearance and synchronization authorities. Second is identifying supported commanders to ensure precise prioritization of objectives and targets. Lacking this delineation, a more simplistic and possibly incorrect division of authority might arise. Interdiction might be viewed as in support of the JFACC, with only CAS designated to assist ground commanders. Third is continued emphasis on Blue-Force tracking through use of beacon devices such as MTX and Grenadier Brat tracking devices to ensure good situational awareness and to minimize potential for fratricide. Fourth is definitive ROE that support target engagement in situations where PID is infeasible. This ROE dilemma is a recurring challenge with no easy solution. There remains a balance between the rapid declaration of a target as hostile to enable rapid attack and the risk of inadvertent strikes of nonhostile targets.[9] Many of the challenges have been noted. However, in summary they are—

- Lack of clearly designated supported/supporting command relationships.
- Lack of delineation of areas of operation and joint special operations areas.
- Nonapportionment and allocation of air assets in support of SOF in the early portion of the fight. including a lack of clear guidance from CENTCOM on fires prioritization.
- Lack of personnel at the special operations component and at the JSOTF level fully trained in joint fires procedures and capable of influencing the joint targeting process.
- Lack of emphasis at the SOLE on targeting and fire support issues.
- Lack of a formal ASOC-like organization at the SOF component or JSOTF level to facilitate all aerial fire support.
- CAS control procedures and methods (not discussed in this article).

The Way Ahead

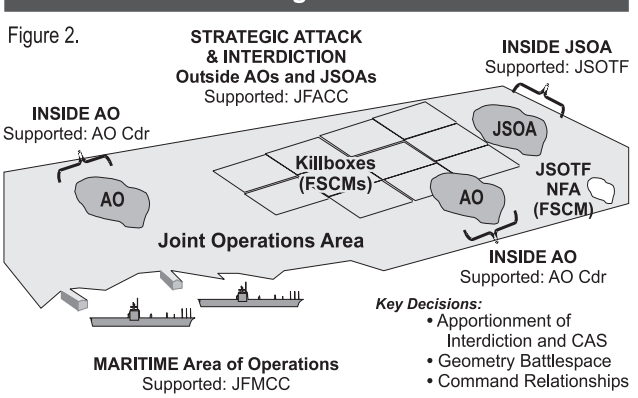
This new paradigm of fires and maneuver in noncontiguous environments is being refined. The sections below summarize some of the steps SOF and the Air Force are taking to enhance fires and maneuver in the joint fight. They advocate increased use of gridded areas of operation and killboxes, increased SOF leverage of joint targeting processes, more robust and trained fire support organizations for SOF, and continued exploitation of Blue-Force tracking technologies.

Increased use of gridded areas of operation and killboxes. No longer do areas of operation have to be linear or large. A gridded arrangement of small areas of operation that can be individually activated and deactivated is feasible and can support rapid decisive operations with quickly moving forces. Use of killboxes overlaid or outside of these defined AOs is an excellent FSCM that facilitates more responsive fires and fire support. NFAs and RFAs may still be necessary to protect forces that might be supporting the CFACC's interdiction efforts as sensors. Battlespace geometry and FSCMs are enhanced through the more reliable Blue-Force tracking means available today.

Increased SOF leverage of joint targeting processes. SOF will continue to

The Noncontiguous Battlefield

Figure 2.



A Special Forces soldier points out key terrain during the investigation of the bombing that killed Afghan civilians.

US Army

[Neither] the Theater SOC, a joint task force commander, or a ground commander . . . were readily capable of performing the functions of targeting, enemy situational awareness, or fire clearance in this large area. Instead, Afghanistan was retained as a CENTCOM area of responsibility. Later , the land mass was assigned to the CFLCC [although] it could be argued that the CFLCC was not capable of performing all the functions of owning an area of operation.

operate in noncontiguous environments in supported and supporting commander roles. SOF needs to continue its increased participation in the joint targeting process through a robust, fully-manned, and trained JFE in the headquarters.

Also, the SOLE must better support special operations requirements for fires in the targeting and ATO development processes. The SOLE needs dedicated and trained maritime and ground expertise, similar to the Army's Battlefield Coordination Detachment, in order to represent the SOC and JSOTF commanders during apportionment, target nomination, and execution phases. Moreover, the SOLE must be directly linked to the future operations and future plans cells at the SOC and JSOTF headquarters to ensure that fire support requirements for special operations are addressed in the theater-level planning cycle. The SOLE must also continue its activities in deconfliction and fratricide prevention.

The SOF community needs to enhance its knowledge and integration within the joint targeting process. The special operations community needs staff officers and noncommissioned officers (NCOs) who are operational-level fire support experts, know the targeting process, and can plan for and direct fires to support JSOTFs. In addition, special operations officers and NCOs should attend joint aerospace C2 courses that will allow them to effectively operate as part of the JFE within a SOF operational headquarters. Greater coordination on fires also is required between the JSOTF and the JFACC, and between the JSOTF and the JFLCC. The JFE and the SOLE need to learn how to influence apportionment decisions made by the joint force commander. The JFE and the special operations command and control element need to learn how to gain the proper support from the JFLCC when operating in the JFLCC AO. Failing to learn these processes will deprive the force of valuable fire support assets due to being excluded when apportionment and allocation decisions are made.

More robust and trained fire support organizations. Much as the JFE and SOLE assist in target planning and coordination, an enhanced air support organization in the SOF headquarters (much like the ASOC in the corps headquarters) facilitates actual execution of fire support for special operations. The term "joint air control element" (JACE) was coined by the 18th Air Support Operations Group commander for this type of organization. This JACE would be a cell within the JSOTF JFE and is the key to fully integrating air power with special operations.

Continued exploitation of Blue-Force tracking technology. Continuous Blue-Force tracking of SOF in noncontiguous environments enhances

The JSOTF could not predict locations of opposition groups or mobile enemy forces. The nature of Afghan tribal warfare (with capitulating forces rapidly changing sides and joining their enemies) dictated against SOF overly planning for interdiction. There was no defined AO or JSOA within which the JSOTF could doctrinally designate target priorities and effects. . . . JSOTF relied on the use of immediate CAS to meet fire support requirements.

situational awareness and reduces the chance for fratricide. SOF should continue to pursue automated tracking means while refining manual tracking and updating techniques into the common operational picture (COP) when beacons are not available. It also is recommended that SOF provide full, rather than discrete or filtered, feeds to the COP to ensure common situational awareness. The likelihood of fratricide casualties due to a lack of situational awareness is much greater than from a potential compromise of SOF locations over these secure COP mechanisms.

Lesson's Learned

The SOF and conventional community can build on these insights, train staffs and commanders, and develop even better TTPs through more involvement in CONUS-based, high-fidelity, realistic joint training and exercises. Warfighting readiness could be improved through many simulation and field exercises.[10] Forces should be trained in the way they are going to fight. They should not be expected to do something on the battlefield that has not been practiced in training or exercises.

SOF and the JFACC worked together in OEF to overcome some initial challenges and learned from the experience. SOF recognized the value of the targeting process, and JFACC recognized the value of SOF as a maneuver force and as an accurate and discriminating sensor on the ground. SOF definitely learned the value of air apportionment and allocation to gain interdiction support and CAS. Both learned the necessity of developing clear battlespace geometry and designating supported/supporting command relationships at the start of operations. SOF learned the necessity for SOLE to be an active player in targeting and fires, in addition to its traditional airspace coordination and deconfliction roles. SOF also learned the necessity of having a knowledgeable JFE in the headquarters to better participate in the targeting process. JFACC discovered the necessity for an ASOC-like organization attached to SOF headquarters to better control allocated air assets in support of SOF operations. The insights gained from OEF are valuable to joint air and SOF organizations as they develop better organizations, tactics, techniques, and procedures. ***MR***

NOTES

1. ARCENT, designated as the combined force land component commander (CFLCC) in November 2002, was assigned responsibility for land operations in the coalition joint operations area Afghanistan (CJOA AFG) to coordinate and synchronize land operations. As a land component commander, CFLCC did not assume the full responsibilities of a joint force commander for the CJOA. This caused confusion on targeting and fires. This same lack of definition also frustrated the 10th Mountain Division as it later took on certain CFLCC responsibilities (authors' perception). However, all said, we do not desire to get into this degree of detail on CFLCC operations as it will dilute the focus of the article.
2. Ibid.
3. Joint Publication 3-09, *Doctrine for Joint Fire Support* (Washington DC: Government Printing Office [GPO], 12 May 1998), chap. 1, para. 3b.
4. This delineation of JFACC authorities for interdiction "outside of area of operations (AOs) and joint special operation areas (JSOAs)" is key in later discussion of the 18th Air Support Operations Group (ASOG)-coined term "ground directed interdiction" (GDI). GDI may occur in or out of designated AOs and JSOAs. The location of the interdiction will determine who is the supported commander and who is responsible for fires clearance.
5. The coalition joint operations area (CJOA)/CFLCC establishment did not solve the issues. By definition, a CJOA includes air and surface space. The CFLCC did not control the airspace or have authority over the Combined Force Air Component Commander (CFACC). The tactical control (TACON) subordination of the JSOTF-North (a joint force) to the CFLCC (a ground force) was also confusing. Again, it was the commanders, the CFLCC commander and deputy commander, the CFACC and the JSOTF commander, who worked together to accomplish the mission.
6. The 18th ASOG deployed a squadron to the JSOTF-North location. The squadron commander and his personnel were able to fulfill many of the targeting responsibilities, in addition to normal tactical air control post functions.
7. The 18th ASOG personnel did a great job in the targeting area. Our comments are not meant to minimize their exceptional work.
8. The JSOTF did, however, nominate targets for this operation. Due to the mission focus of all concerned, the operation succeeded.
9. "Key Command Banned Nearly All Attacks On Afghan Roads, Bridges," Inside The Pentagon, *National Geographic* (9 January 2003).
10. The air component commander and special operations forces are already doing this with great success!

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Political Decapitation

Serge Walder

During the war against Iraq, the United States made two attempts to kill Saddam Hussein and decapitate Iraq of its leadership. One signaled the beginning of ground combat; the other was an attack on Hussein's bunker under a restaurant. Serge Walder argues that attacks to decapitate hostile regimes of their political leadership are effective ways to enfeeble the enemy and pave the way for victory.

ON A RAINY autumn night, four men wearing swimsuits and carrying weapons slip ashore near a large beach house. Two swimmer delivery vehicles, launched from a civilian ship in international waters 12 nautical miles away, have transported the men to this location. An intelligence officer is waiting for them on the shore. He has been in the area for weeks to prepare for the mission. The team's objective is to assassinate a local head of state who is spending the night in the beach house.

Near the capital, five other teams are coming ashore with missions to kill specific targets during the night. On completion of their missions, the teams will have eliminated the political and military leadership of this country prior to a major conventional attack.

The outcome of this special operation is called a coup d'etat or a political decapitation. It occupies an important place in modern military planning.

From Nuclear to Conventional Concept

As dramatic as it sounds, the previous scene could be a realistic mission at the beginning of a major armed conflict. The appeal of such action is found in the simplicity of the idea combined with an efficient outcome. The goal of political decapitation is to annihilate by physical elimination part or all of the key governmental players of a country. These can be listed as the President, the Prime Minister, the Speaker of the Parliament, the Defense Minister, the Foreign Minister, and the Commander-in-Chief of the Army.

Two sorts of political decapitation are used. The first is part of an act of war and is used as a strategic move prior to an invasion. The second is carried out during peacetime to influence the political balance of a region. Political decapitation is usually achieved by assassination, but it also can be achieved through kidnapping.

Until the Cold War ended, political decapitation was thought of as a nuclear counter-value strike. The purpose of a nuclear attack was to disable the political and military establishment of an adversary, create a political power failure, and generate chaos at all levels of command and control. It also was a rejection of any political solution that might come about at the end of the conflict.

Although nuclear political decapitation was the best known and most efficient method in terms of destruction, it also was the least popular because of

Drug Enforcement Agency personnel escort General Manuel Noriega to his seat aboard a U.S. Air Force transport after his surrender to the U.S. military.

US Air Force

the weapon, symbolic of nuclear holocaust. Even today, with the Cold War in the past, the use of nuclear weapons would create strong adverse effects that might be harmful to the primary goal of the aggressor. Nuclear political decapitation was a product of the Cold War, part of a game of terror played by both superpowers. In theory, the United States and the Soviet Union only aimed their nuclear missiles at each other. Consequently, the end of the Cold War should have put an end to the idea of annihilating a political power by nuclear means.

The Cold War and the conflicts of decolonization saw a number of political decapitation actions, including those attempted by the United States and Soviet Union against smaller states or entities. In all of these engagements, regular or special troops played key roles in the operations. Therefore, this practice was already considered an effective way to achieve a designated political or military objective. Today's political decapitation should be seen as the conventional concept of operation. Of course, it cannot be asserted that no country will ever use nuclear weapons. In today's world, however, the use of specialized units trained for this type of operation seems to be the rational way to proceed.

One exception might be found in the volatile situation between India and Pakistan. Both countries are predisposed to employ nuclear power against each other's capital. Even though the political leaders of these countries assure the world that they will never use their nuclear capabilities, their governments are vulnerable to religious extremists who are willing to attempt such madness in the name of God.

The following operations shared a common goal of eliminating the highest authority of a state or a political body. Both assassination and kidnapping was used.

Ben Bella: Algerian war, October 1956. During the Algerian war in October 1956, the French intelligence service and the Army kidnapped Ahmed Ben Bella. Ben Bella was a political leader of the Algerian main fighting group, the Front de Libération National (FLN) and responsible for the group's logistics. The kidnapping took place aboard a Moroccan DC-3 airplane headed for Tunis. The pilots and

The scene immediately after a hijacked jetliner crashed into the Pentagon.

US Marine Corps

crew were members from the French Army and landed the plane in Algiers.[1] Ben Bella spent 6 years in French prisons. The goal of this operation was to eliminate a key political figure in the Algerian resistance and to disrupt its infrastructure.

Allende: Chile, September 1973. On 11 September 1973, the Chilean armed forces overthrew the government of Salvador Allende in a violent coup. Allende died during the fighting in the presidential palace, and a military junta assumed power. The junta was led by Army Commander in Chief Augusto Pinochet Ugarte. It is assumed now that part of the Chilean military was trained and financed by the U.S. Central Intelligence Agency, which assisted in the operation.[2] Even if a foreign hand was involved in this coup d'etat, the desire to overthrow the president and his government came from inside the country and was the result of a political demand for social change. The Chilean Army and police were used against the society they were supposed to protect.

Amin: Afghanistan, December 1979. The Soviets accomplished a successful decapitation in 1979 during the first stage of their invasion of Afghanistan. Prior to an attack by Soviet troops, special assault force (Spetsnaz) teams were sent to Kabul to assassinate the heads of the Afghanistan government. Spetsnaz operators and agents from the Committee for State Security (KGB) surrounded President Hafizullah Amin's palace in Kabul. Once inside, they executed Amin and nearly everyone else in the palace.[3] "The Spetsnaz used weapons equipped with silencers and shot down their adversaries like professional killers," an Afghan survivor said.

After this mission, the teams secured Kabul Airport in preparation for the mass air landing of airborne troops. This operation can be viewed as a perfect political decapitation of a country's government, leaving chaos in the institutional framework.

Noriega: Panama, December 1989. On 20 December 1989, the 82d Airborne Division conducted a combat jump onto Torrijos International

Airport, Panama.[4] This military action was the opening move in a major U.S. operation against the regime of Panamanian President Manuel Noriega. Noriega had become increasingly dictatorial, relied on irregular paramilitary units, and was involved in drug trafficking. It was beginning to be unsafe for U.S. citizens to live in Panama.[5]

After a week of heavy fighting, U.S. troops involved in Operation Just Cause achieved their primary objectives. Noriega surrendered voluntarily to U.S. authorities and is now serving a 40-year sentence in Florida for drug trafficking. The removal of Noriega from presidential office and the establishment of a U.S.-recognized government in Panama were the main goals of this operation. This was a political decapitation implemented by foreign troops through raw force and before the eyes of the world.

These examples show how political decapitation was used during the Cold War and toward the end of the colonial era. Political decapitation was an important factor in those conflicts and is still common in today's news. The terrorist attacks of 11 September 2001 on the World Trade Center and the Pentagon by Osama bin-Laden were an attempt to disable the U.S. political and financial centers of power. Later, when the United States targeted Saddam Hussein, dictator of Iraq, it was once more a hostile move against another nation's political leader. These actions, regardless of the perpetrator, had the same goals: to eliminate the heads of state, to induce failure in the decisionmaking process, and to create a power vacuum.

Although kidnapping heads of state seems to be a good solution to avoid bloodshed, as in the Ben Bella operation, it does not offer the same convenience and effectiveness as physical elimination. First, it is unlikely that a whole government could be kidnapped. This inability to kidnap an entire government limits the scope of political decapitation to use against small political or combatant groups. Second, a kidnapping is not a final solution and does not possess the same psychological effect of terror, chaos, and panic on the targeted political structure as physical elimination. Finally, kidnapping is subject to fiasco during the operation and is not reliable.

To Assassinate Versus to Protect

After nuclear weapons, teams of special operations forces (SOF) are the best method for conducting a successful political decapitation. Because of their training, organization, and equipment, SOF are distinguished from conventional units. They can be designed and directed to influence the will of foreign leadership to create conditions favorable to any country's strategic aims or objectives. SOF actions are principally offensive, are usually of high physical and political risk, and are directed at high-value, critical, and often time-sensitive targets.

In the SOF world, political decapitation is categorized as a direct action (DA) operation. DA is a short-duration strike performed by capable units to seize, destroy, capture, recover, or inflict damage on designated personnel or materiel. When conducting these operations, SOF may employ raid, ambush, or direct-assault tactics.[6] Sabotage and precision-destruction operations are part of this form of combat and may be used during a political decapitation operation.

Although the Western world has trained an impressive number of SOF, political assassination has never been a priority. The ethics of such an action is contrary to Western values, at least when directed against other Western societies.

This was not the case with the Soviet Union during the Cold War. Each Spetsnaz land and naval brigade possessed an anti-VIP company. This company's task is believed to have included the assassination of enemy political and military leaders and attacks on enemy nuclear bases and command centers with the intention of creating panic and disruption. Although only Russia is left of the Soviet Union from the great turmoil of the 1990s, the Spetsnaz tradition seems to have survived in the form of a group called *Grom* (Thunder). *Grom* is under the control of Russia's Foreign Intelligence Service

Elements of the Finnish Army and Navy training to provide protection to the presidential palace in Helsinki.

Finnish Army

(SVR), and its tasks include assassination and sabotage.[7]

NATO countries possess units capable of performing political decapitations. The U.S. SEALS, Delta, and Special Forces; the British Special Air Service and Special Boat Squadron; the French Hubert Commando; and the Italian Comsubin are trained to operate undercover in high-risk environments. The quality of their training and high professionalism, combined with the technological level of most NATO countries, guarantees a positive operational outcome.

In contrast, a country susceptible of being a target for political decapitation will try to protect itself. Some countries with extensive shorelines are aware of the threat to their political and military leadership. The countries bordering the Baltic Sea, for example, were in the front line during the Cold War.

With the exception of Germany, Poland, Lithuania, and Russia, all the other countries have their political capitals situated near a shore. Copenhagen, Denmark; Riga, Latvia; Tallinn, Estonia; Helsinki, Finland; and Stockholm, Sweden, are the hearts of their respective countries. A major strike on these cities could halt most functions of the state. Sweden and Finland have tried to prepare themselves against this kind of attack. The probability of a threat to these countries, however, is considered to be very low in the near future.

Surrounded by an archipelago of thousands of islands, Stockholm is vulnerable to infiltration by small, armed groups coming from the sea. As a result, Sweden maintains three specialized units that can respond to this specific threat:

- The Coastal Rangers (Kustjägarna). This unit is part of the navy. Its main task is to search and destroy enemy units that have infiltrated the Swedish archipelago.[8]
- The Naval Counter SOF Company (Bassäk). A company-size force, it protects Swedish naval installations from attack by hostile forces. Bassäk teams conduct security and reconnaissance patrols using trained dog teams, small boats, and combat divers.[9]

The Försvarsmaktens Särskilda Skyddsgrupp—Special Security Group (SSG). This is a joint service unit. SSG is a relatively new unit within the Swedish armed forces. Recruited exclusively from officers, the unit is trained to conduct prisoner of war rescue missions, hostage rescue operations, and to provide close-protection details for Swedish VIPs.[10]

Furthermore, the Swedish air force and navy patrol regularly in the archipelago area. In the 1980s, one of their tasks was to hunt for Soviet submarines.

Finland has a unit of special rangers whose primary mission is to counter enemy SOF. However, the Finnish army still relies on the guard infantry regiment and on a large framework of coastal artillery (impressive but totally obsolete) for the protection of Helsinki. In addition, the Finnish navy has a sonar surveillance system similar to the North Atlantic Sound Surveillance System line that was deployed on the seabed of the south littoral of Finland. The technology used should be sufficient for good acoustic acquisition.

Denmark also is concerned about the threat. Copenhagen is situated on the bank of the Öre Sund, gateway to the Baltic Sea. Providing security for this important area is the task of the Ranger Corps (Jaegerkorps) and Frogman Corps (Froemandskorpset), backed by the frigates and patrol boats of the Danish navy.[11]

A Real and Current Threat

Until not so long ago, it seemed that political decapitation was no longer an option in First World nations. Western and Eastern Europe and North America were trying to build an island of stability where these kinds of threats were outdated. The 9/11 attacks, however, shredded the belief of an untouchable political system in the West. This deadly event triggered the U.S. invasion of Afghanistan and U.S. President George W. Bush's desire to remove Saddam Hussein from Iraq. This was extraordinary considering the UN's principles that forbid violent intrusion into another country's political structure. The U.S. administration saw political decapitation in Iraq as the principal aim of the war. The result was the disruption of Iraq's political structure and an opportunity for the United States to shape a new government in Baghdad. It was an effective way to wage a major conflict.

Political decapitation is usually preceded by diplomatic and commercial crises, troop movements, and border clashes. These signs of tension often prevent an attack from being a total surprise. Also, international forums, such as the UN or the Organization for Security and Cooperation in Europe, monitor politico-military movement around the world to prevent similar actions. However, no one can predict what a politically unstable neighbor might do to calm its population or to satisfy its appetite for power. For example, Liberia, Sierra Leone, Rwanda, Iraq, Kashmir, and North Korea are constantly fighting with neighboring countries to expand their political power.

Political decapitation is the ultimate military answer for a nation whose goal is to reshape a targeted country's existing political structure and its surrounding region. A well-planned political decapitation operation offers a full reward for very little cost. ***MR***

NOTES

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Integrating Carrier-Based Electronic Attack into Conventional Army Doctrine

Carrier-based EA-6Bs used on-call jamming to successfully disrupt enemy C2 nodes during joint operations in Afghanistan. Authors Ronald Reis and Glen F. Robbins relate the intriguing details and argue that carrier-based electronic warfare assets should be more thoroughly integrated into Army doctrine.

THE PROLIFERATION of affordable communications technology provides even remote, developing countries with substantial connectivity. One person with a cellular phone or an off-the-shelf, push-to-talk radio can influence a battle's outcome. A powerful example of this occurs in the movie *Black Hawk Down*.[1] A small boy holds a cellular phone high above his head to transmit the sound of Black Hawk helicopters flying toward Mogadishu. If that sound had never reached its intended recipient, would the battle have unfolded differently? Joint force commanders in the modern battle arena must consider this question. The lives of their soldiers might depend on the answer.

Well before sunrise on 17 August 2002 in the North Arabian Sea, a lone EA-6B Prowler catapulted from the deck of the nuclear-powered attack aircraft carrier USS *George Washington* while the rest of Carrier Air Wing 17 (CVN-17) slept. The aircraft and its four-member crew turned north and headed for Afghanistan to support the initial airborne assault of Operation Mountain Sweep. The Prowler crew's mission was to deny the free and instantaneous flow of tactical information to and from the enemy's decisionmakers on the battlefield with preplanned electronic attack (EA). This was the first of 13 EA-6B missions flown in direct support of Operation Mountain Sweep, and it marked an evolutionary step toward a symbiotic relationship between conventional U.S. Army ground forces and the EA-6B community. The Army requested this support to minimize the vulnerabilities of large rotary-wing aircraft and mechanized troop movements that had come to light in earlier operations. This new relationship was the result of several key events and the coincidental gathering of the right personnel at the right place at the right time.

Operation Anaconda, code-named after the Union Army's plan to encircle and strangle the Confederacy during the Civil War, took place in early March 2002 in Afghanistan. The operation, which was designed to be the final blow against the last-known substantial force of al-Qaeda and Taliban fighters, took place in the Shah-i-khot Valley, a rugged mountainous region of eastern Afghanistan. In this same valley, in 1987, the Soviet Union lost over 250 soldiers in a single day of fighting.

The Army had opted for light infantry tactics and maneuver warfare using CH-47 Chinooks to place troops in key positions. Stiff enemy resistance forced a withdrawal after two CH-47 Chinooks were shot down

and five more were damaged. Ten U.S. servicemen died. Unfortunately, pockets of determined enemy still remained, and the Army went back to the planning table to build another operation to expunge al-Queda and Taliban fighters from this notoriously dangerous region.

The Prowler Myth

During early summer 2002, the Army conducted cordon and search operations in central Afghanistan. By this time, the *George Washington* and CVW-17 had relieved the USS *John F. Kennedy* and CVW-7 in the Gulf of Oman. CVW-17 was then tasked with direct support of coalition combat operations over Afghanistan.

Army planners did not know that EA-6Bs were available to support them prior to Operation Mountain Sweep. As a result, the idea to incorporate carrier-based electronic attack came late in the planning process and was never properly staffed. . . . There was [also] a misconception of potential fratricide against friendly forces' communications because of the lack of a working understanding of EA-6B capabilities.

The conventional Army's reluctance to use preemptive jamming in Afghanistan resulted from several factors. First, Army planners did not know that EA-6Bs were available to support them prior to Operation Mountain Sweep. As a result, the idea to incorporate carrier-based electronic attack came late in the planning process and was never properly staffed. Second, there was a misconception of potential fratricide against friendly forces' communications because of the lack of a working understanding of EA-6B capabilities. As a result, the EA-6Bs' unique ability to control the electromagnetic spectrum was not maximized.

Instead of helping the Army by denying al-Qaeda and Taliban fighters electronic communications, EA-6Bs were flying a mission that the Coalition Air Operations Center (CAOC) labeled as on-call electronic warfare. The CAOC tasked the EA-6Bs with conducting electronic surveillance (ES) while being an airborne alert asset for communications jamming. The mission was flown at the same time and to the same location each day. The likelihood of a request for jamming support during that small window of coverage was remote. Because they did not communicate with an air liaison officer or ground forward air controller, EA-6B crews did not clearly understand what was taking place on the ground. Their mission lacked focus, and no specific tasking was ever delineated. As a result, electronic surveillance was circumstantial and random. Because the time between collection and analysis was often weeks, rarely, if ever, did EA-6B missions produce tactically relevant information. If an airborne refueling asset dropped out, the EA-6B was the first aircraft to be cut from the air tasking order. Also, if close air support (CAS) assets were called in to drop live ordnance, the EA-6B was ordered to return to the ship.

Days before the *George Washington* arrived in the Gulf of Oman, liaison officers (LNOs) from CVW-17's EA squadron were sent to the CAOC and remained in place for the entire time the battle group was in theater. Two CVW-17 LNOs were graduates of the Electronic Attack Weapons School and were Prowler tactics instructors (PTIs), the backbone of an EA-6B squadron's tactical expertise. PTIs undergo extensive training inside and outside the cockpit that concentrates as much on integration with the joint community as on tactical innovation.

To rectify the deficiencies of the EA-6Bs XEW mission, the CVW-17 LNOs began an aggressive educational campaign that included calls to Army leaders in Bagram, Afghanistan. Also, a PTI who had been supporting regional forces arrived in Bagram to brief key personnel on EA-6B capabilities and to explain how carrier-based EA-6Bs and land-based airborne intelligence, surveillance, and reconnaissance (ISR) platforms could be used to support conventional ground forces in the region. Army leaders were unaware that a carrier-based EA-6B, whose primary mission was to disrupt the enemy's command and control nodes through on-call jamming, was reserved for theater support and was to remain on standby 24 hours a day. Of most importance, the PTI ex-

Deck crew from the USS *Abraham Lincoln*'s crash and salvage team watch the launch of a EA-6B during Operation Iraqi Freedom, 29 March 2003.

plained how the relationship between EA-6Bs and conventional ground forces could develop and codify how airborne EA platforms supported by ISR assets could affect the battlespace. When called for, EA support could and would be provided.

Army leaders' interest was piqued. The timely briefings in Bagram, coupled with the aggressive educational push from the CVW-17 LNOs at the CAOC and the lessons learned from Operation Anaconda, were enough to convince Army leaders that carrier-based EA support could be integrated into conventional operations. Also, the EA-6Bs' record of success in previous campaigns was enough to assuage concerns about fratricide. However, the biggest challenge still lay ahead.

Operation Mountain Sweep

The past record of success was with small-scale operations. Operation Mountain Sweep was the largest offensive conducted in Afghanistan to date, employing nearly 2,000 troops to effect the big push into the mountainous region between Gardez and Khowst. This was dangerous country. The major threat came from small, dispersed cells of resistance linked by radios and telephones. Using standoff rockets and command-detonated mines, the threat only attacked targets of opportunity. After the Chinooks ran into withering fire from the well-coordinated, disciplined adversary, the Army was not willing to put them through the gauntlet again. To reduce this threat, the Army opted to use carrier-based EA-6Bs to support the helicopter assault in an attempt to deny tactical coordination between enemy cells. Requesting support was only the first step, however. Maintaining communication between the Army and Navy became the bigger challenge.

One major problem was coordination between the Army in Bagram and the EA-6Bs on the ship. The two were nearly 1,000 miles apart, and there was no permanent LNO in Bagram. The first 14-line EA request for Operation Mountain Sweep came from the Combined Task Force (CTF)-Mountain information operations (IO) officer. The request

Today, the EA-6B is the only tactical airborne jammer in the Department of Defense inventory. What this means is that EA-6Bs are willing to operate in a threat environment populated with antiaircraft artillery and surface-to-air missile systems during certain combat scenarios. In an urban environment, where rules of engagement might limit or prevent live ordnance drops, electronic fires might be the only available CAS.

went through the CTF-Mountain fires chief to the CAOC master air attack planning cell, which forwarded it to the EA squadron on the carrier. The request was not specific enough for the EA-6B aircrews to determine what the Army wanted for the desired effect. To make matters worse, the CVW-17 LNO's only point of contact in Bagram, the CJTF-180 electronic warfare officer (EWO), had left the theater on emergency leave. As a result, the LNO could not directly contact the CTF-Mountain IO officer.

82d Airborne Division soldiers during Operation Mountain Sweep, 19 August 2002.

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Operation Mountain Sweep was to begin in only a few days, and little specific coordination had been done. A CVW-17 LNO finally got through by telephone to an individual, who by pure coincidence was standing in for the CJTF-180 EWO. The stand-in was a U.S. Air Force officer who happened to be in Bagram on an independent mission from the Pentagon and was not supposed to stay for more than a few days. Being a former electronic warfare officer, he immediately recognized the urgency of the situation, and he put the CVW-17 LNO in direct contact with the CTF-Mountain IO officer. The communication gap was finally closed. Shortly thereafter, and only a day before Operation Mountain Sweep was to began, the CTF-Mountain IO officer was finally able to coordinate directly with the EA-6B squadron.

Yet another remarkable coincidence supported the successful integration of EA-6Bs into Operation Mountain Sweep. The officer in charge (OIC) of the Electronic Patrol Aircraft, the EP-3 Automated Intelligence Reconnaissance Exploitation System (AIRES) II detachment in Bahrain, was a former instructor at the EA-6B community's Electronic Attack Weapons School. Before Operation Mountain Sweep began, EP-3s and EA-6Bs had not been working together in theater to directly support conventional Army forces. Despite that fact, they were used to working with each other and had been used extensively in Operation Enduring Freedom to support Special Forces. Tactics had been developed for the two platforms to work together, melding their unique capabilities. Army leaders were not aware of this and did not request to have the EP-3 scheduled to fly during the EA-6Bs' window of coverage. Once again, adjustments were made at the last minute. The OIC made this happen because of his intimate understanding of the overarching requirements.

The Army also employed organic collection assets on the ground that could have helped the EA-6Bs accurately target enemy communications. The CVW-17 LNOs attempted to push the frequency lists used by the EA-6Bs and EP-3s to the Prophet Teams through the CTF-Mountain IO officer, but the teams had already deployed to the field. The EA-6B had a single-channel ground and airborne radio set, which could have allowed real-time coordination with ground collection units. Unfortunately, no prior coordination had been done, so this capability was not used. The CTF-Mountain IO officer later reported that being able to monitor ground-collection discussion and link ground and airborne assets would have greatly improved the ability to focus the EA-6Bs' capability.

What was the true effect of electronic attack on the battlefield? Measuring quantifiable results without the benefit of explosions or physical evidence is difficult. Communications jamming often results more in what cannot be heard or detected than in what can be. After Operation Mountain Sweep, the CTF-Mountain IO officer reported, "Ground collection in the target areas surrounding Gardez and Khowst is done primarily with organic collection assets. They said that there was no effective

collection during those periods in which the EA-6Bs were operating because 'they' were jammed. Of course, the actual collection asset wasn't jammed, but the targets they normally collect upon were being jammed and that was the intent."[2]

Successfully Shaping and Executing the Plan

When planning ground assault or reconnaissance missions, airborne electronic attack should be treated like any other effects-based strike asset. An intimate knowledge of the threat, coupled with a specific plan for mitigating it, should lead the planner to consider all he has available to support the objectives. A fundamental understanding of those assets is necessary to successfully shape and execute the battle plan.

Today, the EA-6B is the only tactical airborne jammer in the Department of Defense inventory. What this means is that EA-6Bs are willing to operate in a threat environment populated with antiaircraft artillery and surface-to-air missile systems during certain combat scenarios. In an urban environment, where rules of engagement might limit or prevent live ordnance drops, electronic fires might be the only available CAS. In an ideal scenario, EA-6Bs will work with conventional CAS assets. Denying or delaying the enemy's observation, orientation, decision, and action loop can make the difference between success and failure.

Airborne EA should be requested in the same manner CAS aircraft are requested—through the fires coordination element to the theater air operations center. When EA-6Bs are filling the communication-jamming role, an ISR platform should support them. Although EA-6Bs are attached to every carrier air wing, and at least one additional squadron is forward deployed on land, they are usually heavily tasked in theater. The allocation of these high-demand, low-density assets is subject to many factors, but that should never prevent planners from requesting tactical EA support through the proper channels.

Operation Mountain Sweep proved that land- and carrier-based EA/ES assets can and should be integrated into conventional Army combat planning and operations. Several innovative Army and Navy planners saw the need and took the initiative to pave the way for the first successful integration of carrier-based EA-6Bs and conventional ground forces engaged in combat operations. Now, the EA-6B community and the Army must continue building on this success and find new ways of training and fighting together. General Dwight D. Eisenhower once said, "Separate ground, sea, and air warfare is gone forever. If ever again we should be involved in war, we will fight it in all elements, with all services, as one single concentrated effort."[3] During Operation Mountain Sweep, successful coordination came at the eleventh hour. The pieces that fell together were the result of hard work and a lot of luck rather than by design. The next time a combat operation requires airborne electronic attack, we might not be so fortunate. ***MR***

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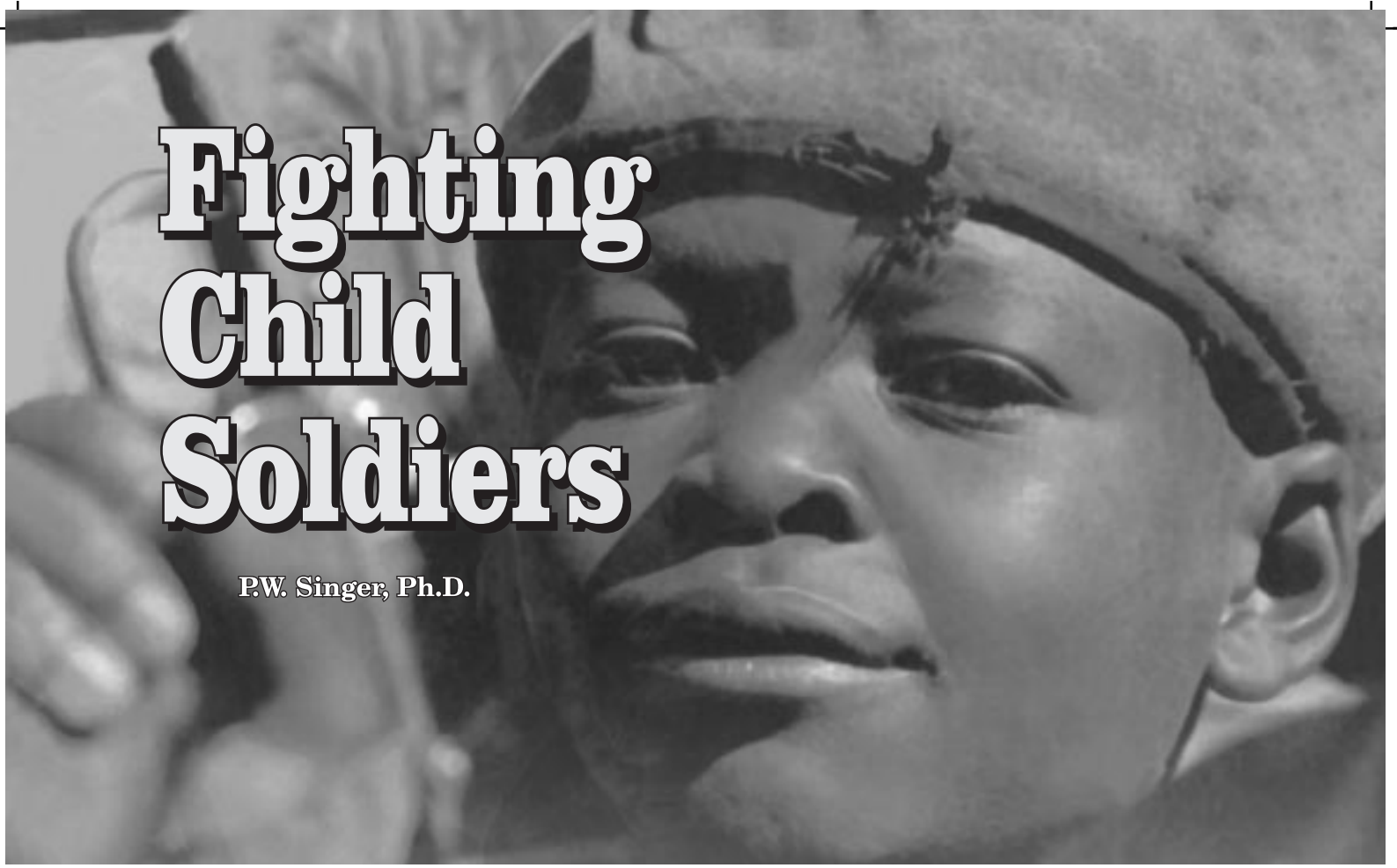

Fighting Child Soldiers

P.W. Singer, Ph.D.

On today's battlefield, U.S. soldiers often encounter civilians of ambiguous status—refugees, members of relief organizations, soldiers masquerading as noncombatants, and children. Increasingly, however, these children are combatants, and U.S. troops must face the psychological effects that come with having to fight them.

It is immoral that adults should want children to fight their wars for them. . . . There is simply no excuse, no acceptable argument for arming children.

—Archbishop Desmond Tutu[1]

THERE IS NO moral excuse for sending children into battle, but the dark reality is that this terrible practice is a regular feature of modern warfare. Some 300,000 children under the age of 18 (both boys and girls) are now combatants, fighting in approximately 75 percent of the world's conflicts.[2]

Among Iraqi dictator Saddam Hussein's human-rights violations was his policy of recruiting children into Iraq's armed forces, in clear violation of international law and moral norms.[3] Already, U.S. and allied forces have faced child soldiers in the fighting around Karbala and Nasariyah.[4]

Since the mid-1990s, thousands of Iraqi boys have attended military-style summer boot camps. During the 3-week-long sessions, boys as young as 10 years old went through drills, learned the use of small arms, and received heavy doses of Ba'ath political indoctrination. The camps were named after resonating current events to help galvanize recruitment and add to the political effect. For example, the 2001 summer camp series was titled the *Al Aqsa Intifada*, to link it with the symbology of the Palestinian uprising that started earlier that year.[5] Beginning in 1998, the military directed a series of training and military preparedness programs toward the entire Iraqi population, including boys as young as 15. The preparedness sessions, which generally ran for 2 hours a day over 40 days, mandated drilling and training on small arms.

The Ba'athist regime's reasons for training and recruiting children were manifold. A common method for totalitarian regimes to maintain control is to militarize society and set it on a constant war footing. Such actions allow for a controlling hierarchy and help divert internal tensions toward external foes. Hussein's regime was no exception. Approximately half of the Iraqi population is under the age of 18, roughly 11 million out of 22 million citizens. This sig-

nificant youth cohort represented a deep pool of potential forces, as well as a potential threat, if not organized toward the regime's goals. Most important, recruiting, training, and indoctrinating children offered the opportunity to deepen the regime's reach into its society.

In Iraq, in addition to broad training programs, the regime organized several child-soldier units. The first appeared to fall under the *Futuwah* (Youth Vanguard) movement, a Ba'ath party initiative formed in the late 1970s aimed at creating a paramilitary organization among children at the secondary school level. In this regime-run program, children as young as 12 were organized into units and received military training and political indoctrination. Units of this force were deployed in the losing stages of Iraq's war with Iran between 1983 and 1985.[6]

The *Ashbal Saddam* (Saddam Lion Cubs), a more recent organization, was formed after Iraq's defeat during the 1991 Persian Gulf war, when the regime's hold on power became shakier.[7] The *Ashbal Saddam* involved boys between the ages of 10 and 15, who attended military training camps and learned the use of small arms and infantry tactics. The camps were reputedly quite intensive, involving as much as 14 hours a day of military training and political indoctrination. The camps also used severe training techniques such as frequent beatings and acts of cruelty to animals to desensitize the youth to violence. The exact numbers of the *Ashbal Saddam* are not known, but there were an estimated 8,000 members in Baghdad alone.

The *Ashbal Saddam* was a feeder program to the paramilitary group *Fedayeen Saddam* (Saddam's Men of Sacrifice).[8] The *Fedayeen* recently came to the fore in the fighting in Southern Iraq where their unexpected levels of resistance and willingness to violate codes of war (such as through false surrenders and use of civilian shields, complicated U.S. forces' early progress and ability to secure supply lines. The *Fedayeen Saddam* was originally formed as a competitive layer of security to the regime and as an organ for intimidating the populace. The *Fedayeen* reported directly to the presidential palace instead of to the army or to the Republican Guard. The *Fedayeen's* members were specifically recruited from regions and tribes considered most loyal to the Hussein family. Reportedly, the *Fedayeen* included a special unit known as the Death Squadron, which executed suspected regime opponents, often inside the victims' homes.[9]

Hussein's regime was not the only actor within Iraq to use child soldiers. Child soldiers are also present in the various Iraqi opposition forces. For instance, there are roughly 3,000 children serving in the Kurdish PKK.[10] The group even organized a children's battalion called the *Tabura Zaroken Sehit Agit*.

IraqiNews.com

"Saddam Lion Cubs" undergoing weapons training in Iraq.

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US Army

Generaloberst Heinz Guderian, Inspector General of the Panzer Arm, with Hitler Youth members. During the 1930s and 1940s, the Hitler Youth served as a feeder program for the German military.

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Hitler Youth/Saddam Lion Cubs

The best historic parallel to the use of child soldiers is the *Hitler Jugend* (Hitler Youth) during World War II. Much as in the relationship between the *Ashbal Saddam* and the *Fedayeen*, the *Jugend* was designed to inculcate political loyalty and to act as a feeder to regime security forces for such units as the SS. In 1945, as Allied forces entered Germany and as the regime became desperate, the group moved into a combat role. The *Jugend* were organized into small units and deployed to disrupt and delay Allied advances and to serve as the core of a longer term guerrilla campaign.[11]

Similarly, the worry with the *Ashbal Saddam* and other armed Iraqi youths is when they move from the recruiting ground to deployment. The most likely situations in which they might be encountered are when U.S. forces enter Iraqi cities. Early indications of this strategy did occur in the first weeks of fighting in the South. But, U.S. and allied forces must remain alert to the potential of children carrying out terrorist-type targeting of U.S. forces and installations behind battle lines, especially in recently occupied territory.

Given the high levels of political indoctrination child soldiers receive, the flow of the war and the dissolution of resistance from the regular Iraqi Army might be disconnected from the actions of child-soldier units or individuals. If history holds true, the most probable incidents will occur in the closing stages of the war, perhaps even when war is seemingly over. Incidents might extend into the occupation period, which makes accounting for *Ashbal Saddam* members a necessary part of any program of de-Ba'athification.

Because of the overwhelming advantage U.S. forces have, Iraq's child soldiers will not change the final strategic outcome. However, experiences from around the globe demonstrate that children make effective combatants and often operate with terrifying audacity, particularly when infused with religious or political fervor or when under the influence of narcotics. In general, children on the battlefield add to the overall confusion of battle. Such units can slow down the progress of U.S. forces, particularly in urban areas, and needlessly add to casualty totals on both sides.

For professional forces, child soldiers present the essential quandary, perhaps even more difficult than the issue of civilian casualties. Children are traditionally considered outside the scope of war. Yet, now they are potential threats to soldiers' lives and missions. Using children as soldiers presents two added concerns. First, children are not seen as hated enemies. U.S. soldiers usually exhibit a great amount of empathy toward children in war-torn counties. Consequently, engagements with child soldiers can be incredibly demoralizing for professional troops and can also affect unit cohesion. For example, there was little official dilemma or controversy over Allied ac-

tions against the *Hitler Jugend* in 1945. The youths were fighting to defend an absolutely evil regime, and the general agreement among the Allies was that Hitler's regime had to be completely defeated. Yet, the experience of fighting against the *Jugend* was so unsettling to U.S. Armed Forces that troop morale fell to some of the lowest points of the entire war.[12] Likewise, British forces operating in West Africa in 2001 faced deep problems of clinical depression and post-traumatic stress disorder among individual soldiers who had faced child soldiers.[13]

A second consideration is the public-affairs nightmare that surrounds the use of child soldiers. In the reports on the initial engagements with child soldiers, both the Arab and international press focused on the immediate act of U.S. soldiers shooting Iraqi children, rather than on the context that led them to be forced into such a terrible dilemma. The children were portrayed as heroic martyrs defending their homes, facing the American Goliath. This image obviously damages U.S. public information efforts to demonstrate the rightness of a cause or the special care U.S. and allied forces take to protect innocents. The potential backlash could imperil already tenuous support from regional allies and harden attitudes elsewhere against giving aid to the United States in the broader war on terrorism. The backlash could increase popular support and recruiting for terrorist groups, such as al-Qaeda, who could claim to be avenging the youth. Finally, the effect caused by seeing photographs of tiny bodies could become potent fodder for congressional criticism and antiwar protestors.[14] These points underscore the general proviso that military force should only be used when and where objectives warrant.

A 16- or 17-year-old member of the 12th SS Panzer *Hitler Jugend* Division in Normandy, France, June 1944. The Hitler Youth Division's training cardres were supplied by the 1st SS Panzer Division.

Bundesarchiv

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Policy Suggestions

In Iraq and elsewhere in deployments in the war on terrorism, U.S. troops face real and serious threats from opponents to whom they generally would prefer not to do harm. Child soldiers, combined with the increasing simplicity and lethality of modern small arms, can bring to bear a great deal of military threat. To avoid any confusion, rules of engagement (ROE) must be clarified to deal with child soldiers. To overcome the shock at the nature or tactics of their adversary (as reportedly happened with the *Fadayeen)* and to maintain the ability to react quickly, U.S. forces' intelligence briefs must prepare soldiers for the possibility of fighting against child soldiers. A microsecond's hesitation could cost U.S. soldiers their lives.

As an illustration of the potential harm possible, in 2000, British army forces operating in West Africa were unprepared for such instances. In one case, an entire patrol was captured because of

International Defense Review

The relatively effective use of young Iranian "martyrs" in the Iran-Iraq War prompted Saddam to deploy children as young as 12 during the losing stages of Iraq's war with Iran between 1983 and 1985.

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the commanding officer's lack of ROE guidance and unwillingness to fire on "children armed with AKs."[15] Despite the officer's well-founded moral objection, his tactical choices in a situation where he had to ad-lib a tactical response threatened his overall mission and might in the long run have caused more deaths. (His patrol was later rescued by an SAS operation that left more than 100 child soldiers and one British soldier dead.)

The underlying point is that a bullet from a 14-year-old's gun can kill just as effectively as can one from a 40-year old's. Likewise, a bomb makes no discrimination to its bearer's age. The youngest reported terrorist is 9-year-old boy who carried a bomb into a polling station in Colombia in 1997. When U.S. forces deploy into an area where child soldiers are reportedly present, they must take added precautions to counter and keep the threat at a distance.

All children are not threats and certainly should not be targeted as such, but force-protection measures must include the possibility or the likelihood of child soldiers and child terrorists. U.S. forces must change the practice of allowing children to mingle freely with soldiers at checkpoints. They must subject children to the same inspection and scrutiny as adults.

When U.S. forces face child soldiers, the best practice appears to be to hold the threat at a distance and initially fire for shock to attempt to break up the child units, which often are not cohesive fighting forces. In a sense, this is the micro-level application of effects-based warfare, but without the overwhelming dependence on high technology. Demonstrative artillery fires (including smoke) and helicopter gunship passes and fires have proven especially effective in shocking and breaking up child-soldier forces.[16] When forced into close engagement, forces should first seek to target then eliminate any adult leaders, as their hold over the unit is often the center of gravity.

An important realization is that total annihilation of the enemy in these instances might actually backfire. That is, confrontations against child soldiers are ones in which the U.S. benefits more by not causing lethal harm. Thus, where possible, U.S. forces should explore options for using nonlethal weapons, which might be more effective and humane for dealing with child soldiers than more traditional means. Doing so would certainly avoid the terrible public affairs cost and also help solidify political and public support for ongoing operations and long-term efforts.

Psychological operations (PSYOPs) should continue to be integrated into overall efforts against Iraqi resistance, including being specially designed for child-soldier units. Their aim should be to convince child soldiers to stop fighting, leave their units, and begin the process of rehabilitation and reintegration into society. Efforts should also be made to deter adult leaders from employing child soldiers by reminding them that, just as with using weapons of mass destruction, using children to fight is a war crime that will bring about their prosecution.

PSYOPs should also seek to undercut any support for the doctrine within Iraqi society by citing the great harm the practice inflicts on the next generation on behalf of a fruitless cause.

Defeating a child-soldier-based opposition does not just occur on the battlefield. Forces must also take measures to quickly welcome child-soldier escapees and enemy prisoners of war. Doing so helps dispel any myths concerning U.S. retribution and induces others to leave the opposition as well. Once soldiers ensure the child does not present a threat, they should provide any immediate needs of food, clothing, or shelter. The child will have depended on his armed group for these things, so U.S. forces must fill the void. To help break the system of control that brought them into warfare, children should be kept separate from adult enemy prisoners of war. Then, as soon as possible, soldiers should turn the child over to health-care or nongovernmental organizations professionals.

When U.S. forces face child soldiers, the best practice appears to be to hold the threat at a distance and initially fire for shock to attempt to break up the child units, which often are not cohesive fighting forces. In a sense, this is the micro-level application of effects-based warfare, but without the overwhelming dependence on high technology.

American forces must also look to the health of their own personnel, dealing with the repercussions of engagements with child-soldier forces. Units or individuals might require special postconflict treatment, akin to what many police organizations offer after shooting incidents. Otherwise, the consequence of being forced to kill children might ultimately undermine unit cohesion and combat effectiveness.

Media images can undermine domestic or international support. If not carefully managed, this aspect of information warfare can be easily lost. Public affairs officers (PAOs) must be prepared for the repercussions of such engagements. In explaining the events leading to the deaths of children, PAOs should stress the context under which the events occurred and the overall mission's importance. PAOs should inform the public that everything possible is being done to avoid and keep child soldiers from becoming casualties. At the same time, the public should be aware that child soldiers armed with AK-47s are just as lethal as are adults. Most important, PAOs must be proactive and seek to turn blame to where it should properly fall, on a regime that illegally and dishonorably pulls children into the military sphere to do its dirty work.

At a broader level, the U.S. Government and its coalition allies must sensitize the public and the wider international community to the issue, stressing how Hussein's regime intentionally created this system knowing that it would lead to the deaths of children. This provides a renewed starting point to work against the general practice in international fora so U.S. forces someday will not have to worry about facing child soldiers.

NOTES

1. Archbishop Desmond Tutu, as quoted in remarks to the Children and Armed Conflict Unit, a joint project of the Children's Legal Centre and the Human Rights Centre of the University of Essex in 1999. See The Coalition to Stop the Use of Child Soldiers, on-line at <www.essex.ac.uk/armedcon/themes/child_soldiers/default.htm>. Tutu won the Nobel Peace Prize in 1984.
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3. International law defines child soldiers as any child under the age of 18 recruited into an armed organization and/or engaged in political violence.
4. Matthew Cox, "War Even Uglier When a Child is the Enemy, *USA Today,* 8 April 2003; "Report: Marines Wounded in Fighting Late Wednesday in Iraq," *Associated Press,* 27 March 2003.
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6. Rädda Barnen, Swedish Save the Children, *Childwar* Database, Principal Investigator: Henric Häggström, on-line at <www.rb.se:8082/www/childwar.nsf/HTML/Forsta?openDocument>.
7. Coalition to Stop, 2002; U.S. Department of State, "Iraq-State Department Report on 2000" (2001); "Saddam 'Cubs' Start Military Training," *Agence France Presse,* 22 June 2002.
8. Ibid.
9. "Saddam's Martyrs," on-line at <GlobalSecurity.org>, 12 September 2002; Sean Boyne, "Inside Saddam's Security Network," *Jane's Intelligence Review* 9 (July 1997).
10. Coalition to Stop, 2002.
11. Guido Knopp, *Hitler's Kinder* (Munich: C. Bertelsmann, 2000); Philip Baker, *Youth Led by Youth* (London: Vilmor Publications, 1989).
12. See Stephen Ambrose, *Citizen Soldiers: The U.S. Army from the Normandy Beaches to the Bulge to the Surrender of Germany, June 7, 1944-May 7, 1945* (New York: Simon & Schuster, c1997), chap. 19.
13. Author interviews, 2002.
14. Martin Indyk and Kenneth Pollack, "Lesson from a Future War with Iraq," Brookings Institution Iraq Memo 4 (2 November 2002). The memo reported on a wargame simulation of a potential invasion of Iraq. The wargame was held among former senior U.S. political and military leaders. One of the prevailing lessons learned was the interaction between political exigency and military judgment in determining the optimal pace of offensive operations.
15. MAJ Alan Marshall, in his de-briefing, quoted in Al Venter, "Sierra Leone: A Disreputable Debacle," *Soldier of Fortune* (January 2001). See also Marie Colvin and James Clark, "How the Hi-Tech Army Fell Back on Law of the Jungle and Won," *The Sunday Times*, 17 September 2000.
16. Center for Emerging Threats and Opportunities, "Child Soldiers: The Implications for U.S. Forces," *U.S. Marine Corps Warfighting Laboratory Seminar Report* (November 2002).

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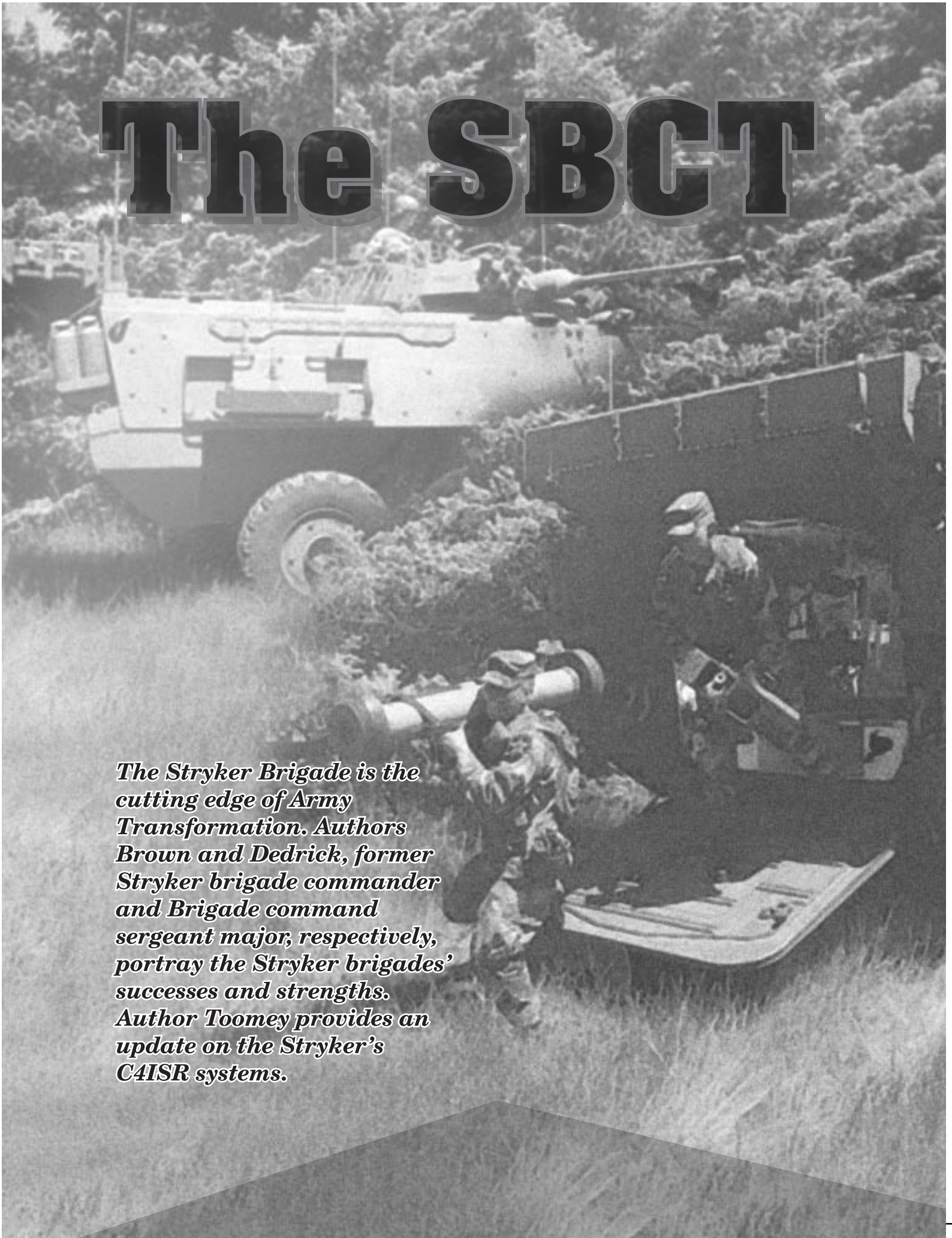
The SBCT



The Stryker Brigade is the cutting edge of Army Transformation. Authors Brown and Dedrick, former Stryker brigade commander and Brigade command sergeant major, respectively, portray the Stryker brigades' successes and strengths. Author Toomey provides an update on the Stryker's C4ISR systems.

Developing Agile, Adaptive Soldiers

Colonel Robert B. Brown, U.S. Army, and
Command Sergeant Major Carlton E. Dedrich, U.S. Army

I REMEMBER standing on a hill at the National Training Center watching digitally-equipped fighting units become significantly delayed at the breach point of an opposing force (OPFOR) obstacle. Others around me were surprised: "How could they get delayed? They have excellent situational awareness and the latest equipment?" In truth, they did have new equipment, but they lacked the time needed to develop the nonmateriel or human dimensions of change they needed for success.

As the Army rapidly goes through the Army Transformation process, the majority of effort has been concentrated on equipment and materiel in the conversion to an Interim Force. While successfully fielding thousands of pieces of new equipment is important, the nonmateriel changes in doctrine; training methodologies; leader and soldier development; and institutional adaptation are equally essential and much tougher to change. That materiel changes will only get the Army so far is obvious. However, human dimensions of change can lead to a complete Transformation and a truly agile, adaptive force ready to fight and win in any conflict. For the Stryker Force to address the critical nonmateriel aspects of Transformation is essential to preparing successfully for operations across the full spectrum of conflict and to enable the Objective Force to be successful in the future.

The world has changed, and the U.S. Army is transforming just in time. Gone are the days of a predictable enemy who will allow U.S. intelligence personnel to distribute a common template of threat doctrine. The Army now faces an incredible variety of potential threats. The enemy has become more adaptive and capable of exploiting any weakness they find. Several aspects of the contemporary operating environment (COE) challenge the Army to adapt to meet the threat adequately.

Technology is readily available to adversaries, and they will use it to exploit weaknesses. The immense variety of environments in which the Army could find itself requires a flexible force prepared to respond to incidents within America as well as operations in remote countries. The overwhelming certainty in any COE is that soldiers and leaders must possess incredible flexibility with which to respond to any threat.

Perhaps the most significant aspect of transitioning effectively to the future is to realize the need for change. Current methods have been successful, so why change now? Just as force structure must adapt to keep up with the rapidly changing world, the human dimensions of change must also adapt. The threat is adapting, so the Army must also adapt or face an enemy who is one step ahead. Of course, the Army should not abandon successful methods that have led to success. Rather, it must build on fundamentals and continue to improve. As U.S. Army General Gordon R. Sullivan has said, "The Interim force is the catalyst for the nonmateriel aspects of change—doctrine, training methodologies, leader and soldier development, and organizational adaptation. Addressing these human dimensions of change is setting the conditions for a faster transition to the Objective Force."[1]

The Agile Training Mindset

The U.S. Army is the best army in the world when it comes to conducting tough, demanding, realistic training. The Army's tactical, technical, and physical aspects of training the force are absolutely superb and the envy of nations worldwide. The ability to be self-critical, analytical, and to focus on critical lessons during after-action reviews has led to having highly trained soldiers throughout the Army. The Army must sustain this critical process.

To succeed in the future, however, the Army must build on a solid training mindset and develop soldiers' agility and adaptability by focusing on training events that require creative solutions and an ability to focus and concentrate on the important points at hand. Training events must challenge soldiers to be flexible and to adapt to a thinking, flexible enemy. By developing training events that replicate an agile

enemy, leaders can train focused, confident soldiers.

Agility is the ability to move and adjust quickly and easily. U.S. Army Field Manual (FM) 3-0, *Operations*, states, "Agile commanders, both mentally and physically, quickly comprehend unfamiliar situations, creatively apply doctrine, and make timely decisions."[2] Training soldiers to be agile requires concentrating on cognitive skills while stressing fundamentals. With proper training, soldiers can improve their focus, concentration skills, many other cognitive skills, such as visualization, and the basic warrior ethos. Soldiers must become capable of taking charge one to two levels up and on focusing on the critical task at hand despite a plethora of distractions. To succeed in future conflicts, the Army must strive to attain the "next level—agile training mindset" while maintaining solid training fundamentals and while challenging soldiers by emphasizing cognitive skills through adaptive training scenarios.

The Stryker Force is designed to maximize its potential by being able to fight dispersed on a noncontiguous battlefield. . . . All soldiers must be trained to an increased level of proficiency because of the possible dispersed nature of future fights. Soldiers from all military occupational specialties might find themselves in harm's way.

While training soldiers to have an agile training mindset, leaders must understand that training should not come at the expense of the solid training fundamentals that have served the Army so effectively. Developing agile, adaptive soldiers requires the same concentration on key fundamentals, but leaders must make the training events more realistic in COE terms. For example, when teaching basic marksmanship, the entire event should be a training event, including convoy movement to the range, the range exercises themselves, and the convoy movement from the range. To replicate realistic conditions in a combat scenario, an artillery battery should set up howitzers and conduct simulated fire missions before conducting marksmanship training. While moving to the range, trainers could expose a unit to many challenging scenarios—nuclear, biological, and chemical simulations; human intelligence play; leader casualties; OPFOR ambushes; and so on. Doing so would turn a routine event into a training event to develop agile soldiers.

Developing agile, adaptive soldiers requires trainers to take individuals out of their comfort zones and force them to develop creative solutions to problems. Such training must occur while training the fundamentals, not separately from the training event, to ensure that soldiers and leaders are training in a similar environment to that in which they will operate in future conflicts. One superb example of this is of a unit moving to the field for training. On the morning of the deployment, trainers inform all officers they will be moving to the field separately from the vehicles and soldiers. During most of the movement, the officers will be challenged with scenarios ranging from a simulated helicopter crash to a link-up operation with partisan forces. Meanwhile, noncommissioned officers (NCOs) move the unit to the field and, in a realistic environment, begin combat operations, having soldiers serve one or two levels above their grades. In this way, agile-leader training is the result of what could have been a routine event.

Another training scenario that would help develop agile soldiers is a concept the brigade's human intelligence (HUMINT) personnel might develop. HUMINT training often involves complicated scenarios that require extensive preparations so actors can gain adequate training in the many required skills. Events can take months to plan but might result in only a few quality training events for an entire year. One solution is to develop a permanent scenario that would allow HUMINT personnel to continue to work the same scenario over an entire year yet provide valid feedback and quality critiques by trained personnel. In a garrison environment, HUMINT personnel could work through each challenging situation, with unlimited opportunities to improve skills.

The Stryker brigade applies this same concept within home-station training. The scenario they use enables trainers from all specialties, from squad through brigade, to obtain products on a brigadewide scenario used for all training events. Units can then practice—

- Common rules of engagement.
- Logistic operations in a realistic environment.
- Realistic OPFOR interaction (because trainers can script roles in advance).
- More realistic use of Stryker Brigade Combat Team (SBCT) products, such as terrain products, tactical unmanned aerial vehicle photographs, Prophet signals intercepts, digital information flow, and so on, which can be developed in advance of any training event.

Units could then train in a more realistic environment to develop soldiers who are agile, adaptive, and able to respond to the many challenges requiring creative solutions. The training's quality and realism would provide more opportunities to develop soldiers and leaders who are more comfortable in ambiguous situations and can function outside of their comfort zones.

US Army

Attack aviation responds to the ambush of a 101st Airborne Division convoy, 2 April 2003.

Developing agile, adaptive soldiers requires the same concentration on key fundamentals, but leaders must make the training events more realistic in COE terms. For example, when teaching basic marksmanship, the entire event should be a training event, including convoy movement to the range, the range exercises themselves, and the convoy movement from the range.

Stryker Force Training Changes

Interim Force training changes occur in all aspects of operations, including those in the following paragraphs.

Initiative. One of the most significant changes resulting from the Stryker Force's digital capability and improved situational understanding is the amount of information available to the soldier. Increased amounts of information are essential in developing and maintaining a thorough situational understanding of the area of conflict. Incorporating increased amounts of information requires an adjustment to the training of junior-leader initiative. Increased amounts of information can affect the entire unit's initiative, including its leaders'.

Exercising initiative is relatively simple when there are only a few pieces of information available and the probability of additional information reaching the unit is limited. Many at lower levels receive more information than they can adequately sort and analyze, which can significantly affect initiative. This informational shift requires trainers to teach initiative differently. Receiving copious amounts of information can overwhelm soldiers, so they must be trained to determine and select the most critical items and to then act on them in a timely manner. Soldiers will learn to make critical decisions and will gain confidence from the fact that they will not be second-guessed by higher level leaders. Higher level organizations have an increased capability to micromanage their subordinates and stifle initiative by using digital or new tactical systems. Training must allow subordinates to work multiechelon operations and sort through significant amounts of information before using their initiative. Subordinates need to experience the trust of their higher headquarters, or their initiative will be stifled completely.

The full-spectrum conflict. The Stryker Force will be trained for the full-spectrum conflict in a train, alert, deploy mode to enable timely, rapid use of Army assets. Forces will not have a cushion of time, as they have had in the past, during the alert, train, deploy stage. There will just not be enough time to allow a delay in arriving in theater.

The requirement to train the full spectrum of operations mandates several critical training adjustments from past methods of training. Units must determine their most dangerous and difficult tasks and prioritize training to ensure those tasks receive the training emphasis they demand. The natural tendency will be to do many tasks to a lower standard, when in fact, units should train fewer

tasks to a higher standard.

Given the complexity of the organization, the training must be multiechelon. A platoon needs products from company, battalion, and brigade to train the way they will fight. If the platoon is making decisions with only limited information, they will not be adequately prepared for the significant information available when higher headquarters uses a multitude of assets and digital systems. A focus on the discipline required to perform difficult tasks ensures that the unit can quickly scale down to a less-demanding situation. Attempting to train more events for the full spectrum of operations will only result in many poor quality events performed to a lower standard. Performing fewer events with more complexity and ensuring multiechelon training to maximize preparation time will increase the unit's chance of winning in future conflicts.

In the past, the Army relegated leader training, which was often not professionally challenging to all involved, to second place to other events. This will not work for the Stryker Force. Leader training must challenge individuals and develop the expertise they need to fight an agile, adaptive foe. Training should focus on training leaders to be able to function two levels up.

The noncontiguous battlefield. The Stryker Force is designed to maximize its potential by being able to fight dispersed on a noncontiguous battlefield. This adjustment away from the traditional linear battlefield mandates significant training changes to effectively prepare soldiers for future operations. All soldiers must be trained to an increased level of proficiency because of the possible dispersed nature of future fights. Soldiers from all military occupational specialties might find themselves in harm's way.

Combat support and combat service support personnel will need to train to higher levels of proficiency in basic soldier skills and will benefit significantly from receiving advanced training in areas such as marksmanship skills. The challenge with the increased training requirements is a decrease in available training time. Digital equipment requires training and continuous use to maintain efficiency. Also, many support specialties are required to do more with fewer people to maximize the fighting units' tooth-to-tail ratio.

The training solution to such challenges has been to adopt a train-the-trainer concept, with the support of specialty NCOs. The unit can maintain the support required and train selected NCOs in critical battle tasks for the noncontiguous battlefield, such as by focusing on increasing the skills of selected individuals, who can then inculcate the entire unit with an increased level of training proficiency. Developing a noninfantry advanced marksmanship course is one example of a training method that could be used to focus on support specialties. The course would train critical skills quickly without significantly affecting the entire unit. Many training methods will work to enhance soldiers' skills; the important point is for leaders to realize the need for these required changes and for them to place emphasis in this area.

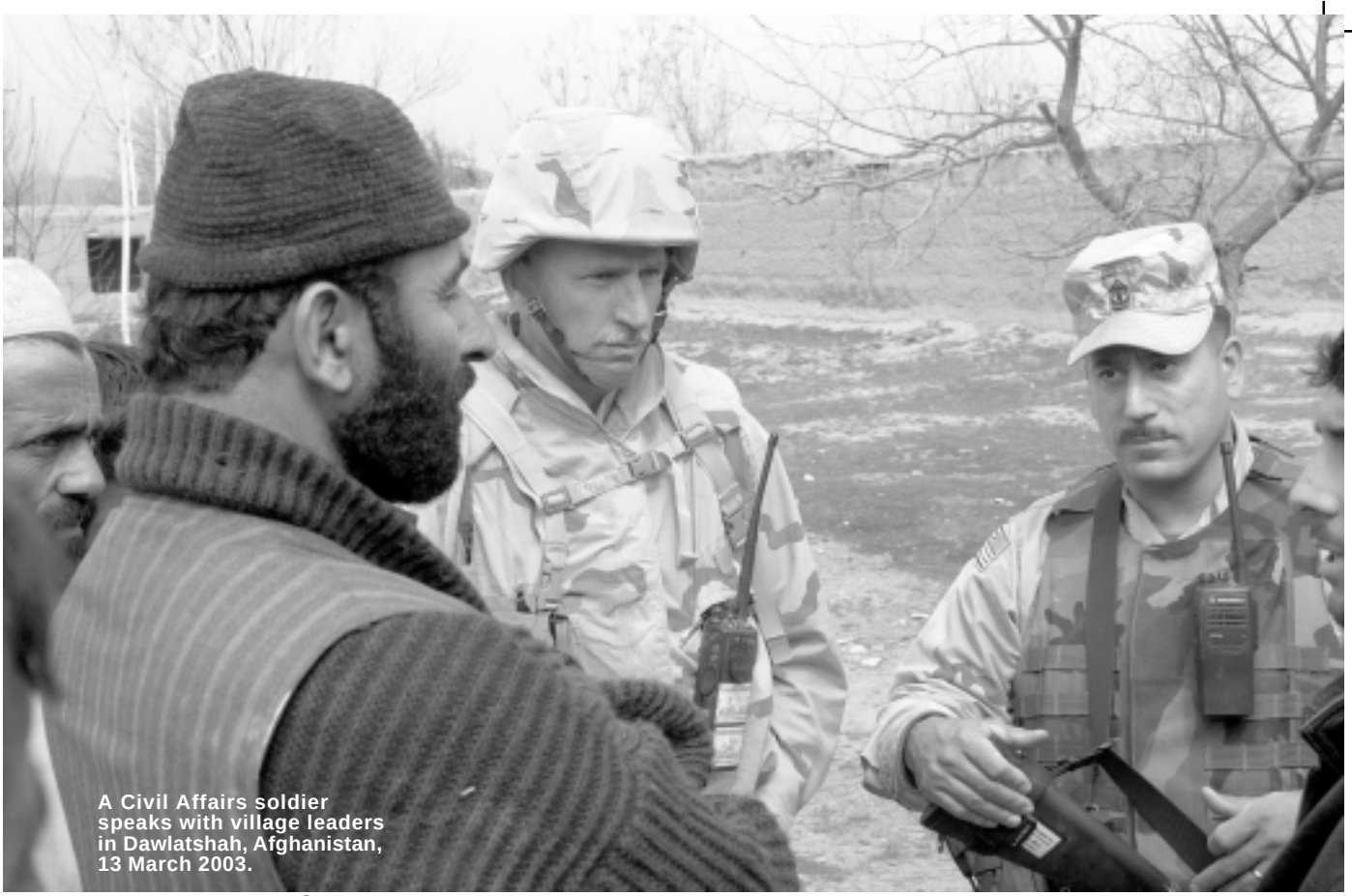
Empowerment. Junior leaders must be empowered to plan and execute more training events on their own. The system of centralized planning and decentralized execution has been effective for many years. The Army has slowly gravitated to a system that supports centralized planning and execution for incorporating training efficiencies and for ensuring that junior leaders train for the proper tasks. The Army must encourage junior leaders to become more involved, readily accepting their mistakes along the way if they are ever to become agile, adaptive fighters. Rigidity in centralized control is effective when facing a much less adaptive enemy; however, the future will see adaptive foes looking to exploit U.S. weaknesses and to avoid U.S. strengths.

The Army requires junior leaders to accept significant increases in responsibility, with combined arms forces migrating to the lowest levels of the organization. Soldiers must fully train and prepare themselves for future complex battlefields. Training combined arms at the lowest levels requires additional training for junior leaders.

With combined arms down to platoon level, company commanders have significantly more responsibilities in the Stryker Force. Junior leaders must possess the skills they need to train effectively the many assets they have available. Eventually, the Army's educational systems will adjust and include these changes, but until this occurs, units must develop training programs for junior leaders concentrating on how to train the combined arms organization effectively. This could be through certification programs, leader development programs, a train-the-trainer program, or other method, to ensure leaders understand the requirements of these complex organizations.

Leader training. Leader training has always been an important component of well-trained units, but with the Stryker Force it takes on even more importance. Extensive leader training is essential to the effective development of junior leaders, and it must relate to essential cognitive skills that will be critical for the future battlefield and be challenging

US Army



A Civil Affairs soldier speaks with village leaders in Dawlatshah, Afghanistan, 13 March 2003.

HUMINT training often involves complicated scenarios that require extensive preparations so actors can gain adequate training in the many required skills. Events can take months to plan but might result in only a few quality training events for an entire year. One solution is to develop a permanent scenario that would allow HUMINT personnel to continue to work the same scenario over an entire year yet provide valid feedback and quality critiques by trained personnel.

and unique. Trainers must devote the same effort to leader training as they would devote to preparing for a combined arms live-fire exercise.

In the past, the Army relegated leader training, which was often not professionally challenging to all involved, to second place to other events. This will not work for the Stryker Force. Leader training must challenge individuals and develop the expertise they need to fight an agile, adaptive foe. Training should focus on training leaders to be able to function two levels up, using practical exercises, simulations, tactical exercises without troops, staff rides, and other creative methods.

Digital skills. Training digital skills that will enable individual soldiers and units to effectively use the immense potential of digital systems requires extensive training at individual and collective levels. The "buttonology" of how to use individual digital systems is a critical individual task. Ensuring that leaders know the systems' capabilities also is a critical leader task. Being effective at the individual level requires a creative use of systems throughout training, even when all systems have not been fielded. Reinforcing how digital systems are used and incorporating them into the most routine events reinforces their use and importance in gaining situational understanding on the battlefield. Systems must be used to track individual digital proficiency, much as battle-rostered crews are tracked in an armored unit.

Collective digital training is much more time consuming and leader-intensive than one might initially anticipate. Small units must incorporate collective digital training into their busy schedules to effectively work out standing operations procedures and to gain valuable practice at making decisions with the proper amount of situational understanding. Getting the required feedback through a realistic scenario requires that a simulation center or higher echelon participate when units train with digital systems. Requirements for digital proficiency at all levels reinforces earlier suggestions to train fewer events to a higher standard and to conduct a combined arms, multiechelon training event to maximize training time and quality.

Physical training. Battle fitness remains an essential requirement for every soldier and unit. No advances in digital equipment can reduce the need for battle-ready soldiers who are physically fit and able to perform their tasks under harsh conditions.

Physical training can be adjusted to include the development of agile, adaptive soldiers. Physical events can challenge soldiers by including events that require them to adapt to changing situations and to develop creative solutions. Training can also focus on leading one to two levels above soldiers' comfort zones for certain physical events. Examples range from a modified leadership-reaction course to a complex unit-casualty exercise. Physical training's essential element is that it remain tough and challenging while building agile, adaptive soldiers.

Simulations. Across the Army, the reliance on simulations and virtual training continues to grow. The Stryker Force requires an even greater reliance on such technology. To properly train the digital systems, from the individual soldier through the collective operations center events, there must be extensive simulation support. Instructors can also use digital systems to develop agile, adaptive soldiers and leaders by incorporating the latest technology into training events and by aggressively seeking training opportunities. Trainers should challenge soldiers to operate outside their comfort zones, and trainers should use simulations to vary conditions. Of course, it is important that simulations be balanced with real events to provide the proper level between the two and to ensure that soldiers are well trained.

To implement many of the training changes that have been identified within the Stryker Force, the second Stryker brigade created the Stryker Brigade Advanced Skills Center (SBASC), at Fort Lewis, Washington, which teaches essential courses to the Stryker brigades. The most essential course taught is the Stryker leader's course, which teaches "what right looks like" for an agile, adaptive leader. This 7-day course, which focuses on critical tasks within a Stryker unit teaches the systems, training methods, and characteristics unique to a Stryker brigade and culminates in a 3-day field training exercise that requires agile, adaptive leadership throughout the event.

Other courses include an advanced marksmanship course for noninfantry specialties and an advanced weapons course for all specialties. Training also includes a sniper-employment course and a squad-designated marksman course, which is a new SBCT concept and the first course of its kind in the U.S. Army. Soldiers will also continue preparing for Ranger school and sniper school, as these are superb leader development courses. Where it is required, the SBASC will serve as a catalyst for change and for sustaining essential skills as needed. The SBASC is a critical part of the Stryker brigades' ability to attain the "next level—agile training mindset."

Leader and Soldier Development

It profits an army nothing to build the body of the soldier to a gladiatorial physique if he continues to think with the brain of a malingerer.
— S.L.A. Marshall[3]

As the Army continues the Transformation process, it must emphasize an area often ignored in the past. That area is training essential cognitive skills. On a battlefield, where units will be more widely dispersed over extended distances against a potentially more adaptive opponent than they have ever before faced, possessing cognitive skills takes on added significance. With minimal effort, trainers can teach essential cognitive skills, including the warrior ethos; concentration and focus skills; visualization; goal setting; stress management; and confidence. Yet, such skills significantly enhance soldiers' and leaders' ability to think confidently and act decisively. The second Stryker brigade included basic instruction on these skills in several leader development courses and has seen significant results.

The perfect training organization for cognitive skills is at the Center for Enhanced Performance (CEP) at the U.S. Military Academy. CEP's many training programs specifically target cognitive skills that significantly improve a soldier's performance. Although CEP conducted training for the Stryker brigade using instructors on the ground, it might be possible to develop a web-based training site that would give more units access to training methods.

The *Leader's Agility Book* is another tool trainers use to develop leaders within the second Stryker brigade.[4] The book contains a series of examples, vignettes, and training scenarios with which to teach leaders how to develop agile, adaptive soldiers. Leaders can use the book to build on their own solid training knowledge and to incorporate additional skills to help their soldiers. Leaders can also use the agility checklist to ensure training events are developing the most agile leaders possible.

Institutional Changes

A unit cannot operate centralized in garrison and decentralized in the field. A commander is mistaken if he believes that such a conceptual shift is possible. Subordinates who, in garrison, are used to deferring decisions until consulting with, and receiving approval from, the battalion commander will not suddenly be able or willing to make the judgments required of them in training or in combat.
— Major General James M. Dubik[5]

Having institutional systems in place to support the new organization for the Stryker Force is absolutely essential to developing agile, adaptive leaders. Currently, institutional systems are why leaders must devote so much of their time to acquiring the re-

sources they need for training their units, which leaves them a minimal amount of time to devote to the quality of the training. Thus, junior leaders cannot become agile, adaptive soldiers because they must devote most of their time to fighting institutional battles. As a result, the quality of training can never reach the level required. Such systems have developed into a bureaucracy designed for efficiency of centralized operations and are not supportive of tough, demanding, realistic training. Many areas need adjustments. The following paragraphs discuss the most essential immediate requirements.

Ammunition. Ammunition procedures have failed to keep pace with the changing dynamics of Army organizations and essential training requirements. The most significant issue is with the Stryker units' ammunition requirements. Stryker brigades have significantly more weapons systems than did previous brigade combat teams and will require more training for all specialties because of the nature of the future battlefield. Developing appropriate Standards in Training Commission requirements for the SBCTs is critical and must be balanced with the use of simulations to attain the weapons proficiency units require. The SBCTs will require a commitment of significant ammunition resources to ensure they can maintain the proficiency to deploy rapidly worldwide and to complete their missions.

Procedures for drawing ammunition also create challenges. For example, Stryker brigades no longer have support platoon personnel assigned to their infantry battalions because the brigade support battalion is required to draw and deliver ammunition for all units within the brigade. Garrison systems have not adjusted to this concept, and they still require infantry units to draw ammunition without having qualified personnel. They then sign over the ammunition to the support unit for distribution. The unit will certainly not operate this way in the field, and this ad hoc arrangement causes severe problems. The Army must analyze all ammunition procedures to determine how they affect quality training. Where possible, procedures should be revised.

Funding requirements. Funding requirements need a similar adjustment to keep pace with the changing nature of warfare. Currently, it is extremely difficult to get training devices that are not already approved by a TRADOC-level organization and mass-produced for the entire Army. Stryker brigades require more flexibility than this and should be allowed to purchase items that can enhance training as new requirements are discovered and deemed essential. The Army should allow exceptions to the stringent funding requirements that negatively affect the development of creative training methods or of equipment required for the new organizations.

US Army

A soldier squeezes into his digital equipment-packed Bradley during an Advanced Warfighter Experiment at Fort Irwin, California, 25 June 2001.

With combined arms down to platoon level, company commanders have significantly more responsibilities in the Stryker Force. Junior leaders must possess the skills they need to train effectively the many assets they have available. Eventually, the Army's educational systems will adjust . . . , but until this occurs, units must develop training programs for junior leaders concentrating on how to train the combined arms organization effectively.

Centralized control in garrison. Commanders at all levels must understand the effects of overly centralized control of subordinate commanders while in a garrison environment. Expecting any commander who is overly supervised in garrison to suddenly become an agile, adaptive leader in a field environment is unrealistic. E-mail and digital systems make it easy for commanders to demand copious amounts of information from subordinates. The question is whether the unending amounts of information are really critical or whether they can be obtained by some other means than a commander's

Murderers' row: 2d Infantry Division's Stryker Brigade Combat Team awaiting orders to roll out, Fort Irwin, California, March 2003.

US Army

Stryker brigades have significantly more weapons systems than did previous brigade combat teams and will require more training for all specialties because of the nature of the future battlefield. . . . The SBCTs will require a commitment of significant ammunition resources to ensure they can maintain the proficiency to deploy rapidly worldwide and to complete their missions.

direct involvement. Army Regulation (AR) 350-1, *Army Training and Education,* requirements for a company commander have increased exponentially during the past 10 years.[6] In fact, company commanders must now track approximately 120 pieces of information from AR 350-1 alone. Such information does not include local regulations or requirements from several other layers of command. The Army needs to thoroughly review requirements, prioritize where possible, and reduce junior leaders' burdens so they can truly develop well-trained organizations that can excel in future conflicts. With limited training time and more complex organizations and missions, junior leaders cannot do it all. They might allow the mandatory requirements to slip, which will negatively affect training quality. The Army must help junior leaders prioritize requirements and focus on the most important tasks.

Resourcing training. The methods relied on in the past to resource training might not be the best for developing agile, adaptive leaders. When confronted with new organizations, installations should review procedures to ensure they are getting the best training value, not necessarily the most efficient use of resources. For example, for units to actually own training land for a longer time period might be better than is currently allowed. Doing so would reduce the constant fight for land resources and the challenges to attaining training areas. Junior leaders could then concentrate on providing quality training instead of fighting for resources.

Other potential changes involve allowing junior leaders more control over developed live-fire ranges. While it would be impossible to conduct effective training without dedicated civilians who help in range scenarios, many installations have range-control civilians who severely hamper junior leaders' efforts to conduct tough, demanding, realistic training. A proper balance is needed.

Digital equipment use. A critical lesson for the fielding of digital systems is that to maximize their potential and to properly train soldiers they must be used frequently. That Stryker brigades be supported in using Army Battle Command Systems daily in a garrison environment is essential. This change might require shifts in normal contact procedures with higher headquarters, such as E-mail, and would require a commitment of funds to support the changes.

However, it is critical that using digital systems becomes second nature. Daily use is the best method to attain the required skills.

Using technology effectively. Technology is a powerful tool that can save time and enhance training if the Army invests in systems that can take advantage of technology. For example, the many AR 350-1 requirements that exist for company commanders require extensive man-hours to track and the use of prime-time training to teach. Tracking all AR 350-1 requirements would require a simple database that could be connected to the Army Knowledge Online system to enable soldiers and leaders to track qualifications easier on-line. Using simple links on a website, soldiers could complete portions of individual mandatory training, then allow leaders to confirm completion on-line. This would leverage technology to reduce the burdens on prime-time training and greatly simplify the collection of statistics vital to a unit's readiness.

Personnel. Adequately supporting the development of agile, adaptive soldiers and leaders requires some adjustments of the personnel system. The Army needs to review essential institutional changes and act on them to ensure a complete Transformation to the Interim and Objective Force. Some essential changes require stability for soldiers and leaders to ensure training can move to the level required.

Without a firm commitment for the stability of soldiers who have essential skills, a unit will never be able to function beyond a basic level of operation. Individuals who possess essential digital skills should be identified with additional skill identifiers so they can be closely tracked and sent to the correct units. This also comes into effect for follow-on assignments for SBCT personnel. They should be carefully screened for where they are best able to apply their skills to help other units or organizations in the Transformation process.

Collective digital training is . . . time consuming and leader-intensive. . . . Small units must incorporate collective digital training into their busy schedules to effectively work out standing operations procedures and to gain valuable practice at making decisions with the proper amount of situational understanding.

Transformation is Difficult

As the Army transforms to do its duty in a new operational environment, we must retain and, in fact, strengthen the key imperatives of leader development and training.

— General Eric K. Shinseki[7]

Transforming any organization is difficult, challenging, and requires a complete commitment from its leaders. Army Transformation efforts come at the perfect time in the Nation's history. The world has changed, and the Nation needs an army of agile, adaptive soldiers who can deploy rapidly to any potential conflict to deter or defeat the Nation's foes. The Army has made incredible strides in its materiel Transformation and must continue to work toward providing soldiers the best technology and equipment available.

The Army is at a phase in Transformation where nonmateriel changes are essential to a lasting Transformation. The lessons of the Stryker Force are growing every day, and unless the Army acts now to make the proper changes to the human dimensions of Transformation, it will never truly transform. The time is now to critically analyze the training methodologies, leader and soldier development, and institutional adaptation that must occur for a true Transformation that will lead the Army into the future with an effective Stryker Force and that will adequately prepare the Objective Force for success.

NOTES

1. GEN Gordon R. Sullivan, quoted in GEN James M. Dubik, "The Army's Twofer: The Dual Role of the Interim Force," The Land Warfare Papers, 39 (Arlington, VA: The Association of the U.S. Army (AUSA), October 2001), iv, on-line at <www.AUSA.org/PDFdocs/lwp39_dubik.pdf>.
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4. U.S. Army, 1-25 SBCT, "Take Charge," *Leader's Agility Book,* version 4, publishing information unknown.
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6. U.S. Army Regulation 350-1, *Army Training and Education* (U.S. Department of the Army, Washington, DC: 9 April 2003), on-line at <www.usapa.army.mil/pdffiles/r350_1.pdf2>.
7. GEN Eric K. Shinseki, in "Transformation" white paper, AUSA, publishing information unknown.

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C4ISR in the Stryker Brigade Combat Teams

Lieutenant Colonel Christopher J. Toomey, U.S. Army

What makes the SBCT unique is its combination of enhanced information technology and communications, which increases force effectiveness and agility through a command- and execution-centric approach to decisionmaking.

— SBCT Organization & Operations[1]

INFORMATION superiority derives from a mastery of information as an element of combat power. It involves gaining a more complete situational understanding than our adversary and translating this information into an ability to "see first, understand first, act first, and finish decisively."

Information superiority is dynamic and relies on proactive, thinking leaders who maximize all available information while trusting and empowering their subordinates. It also depends on the emerging technologies and processes embodied in a robust command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) information structure.

In U.S. Army Field Manual (FM) 3-0, *Operations*, information superiority is described as "the operational advantage derived from the ability to collect, process, and disseminate an uninterrupted flow of information while exploiting or denying an adversary's ability to do the same."[2]

The Army strives to give commanders the ability to gain information superiority. As described in Joint Vision 2020 and reinforced in multiple Army documents, including the Army White Paper for the Objective Force, information superiority is critical to battlefield success.[3] It gives the commander an edge to develop the situation out of contact and have the right force at the right place, at the right time, to maintain momentum and keep the enemy off balance.[4]

Today, Army forces are modernizing information systems to achieve information superiority. This provides leaders at multiple levels with real and near-real time information and more complete and timely situational awareness. This dramatic investment was assessed during the JRTC-based Advanced Warfighting Experiment and in development of Force XXI units at Fort Hood, Texas. The Stryker Brigade Combat Teams (SBCT) at Fort Lewis, Washington make up a combined-arms organization designed to achieve and maintain information superiority using an embedded C4ISR capability.

In a recent paper for the Association of the U.S. Army's (AUSA) Institute of Landwarfare Symposium, Major General James Dubik noted that the SBCTs and the evolving interim force would give the Army a "Twofer."[5] First, the Army would get full-spectrum, combat-ready units that were prepared for immediate deployment and could fight on arrival. Second, the Army would get an active, experienced-based learning laboratory from which to gain insights that would be applied to shaping the emerging Objective Force. Can the Interim Force, the current SBCTs and their progeny, give commanders what they need to gain information superiority? Is the Army on the right track to achieve the conditions for true and continual information superiority within the Interim Force as a gateway to the Objective Force?

The SBCT is a new and unique organization, and there is a great deal of literature about its capabilities. Infantry-centric, it includes an entirely new unit, the reconnaissance, surveillance, and target acquisition (RSTA) squadron. The SBCT relies on a robust, embedded C4ISR capability, which runs vertically and horizontally throughout the unit and contains the unit's external links and provides the properly integrated commander with the means to gain information superiority.

The SBCT Tactical Infosphere

The C4ISR capability is not merely limited to equipment. It includes consideration of the flow of information and how leaders use that information. Information gatherers include human intelligence

(HUMINT) sources such as soldiers and civilians on the battlefield. The information environment and supporting C4ISR within the SBCT can be described in terms of the SBCT infosphere (see figure). In general, the SBCT infosphere includes all assets that contribute to the flow and processing of information within and to the SBCT. It should not be limited to the SBCT proper but can include a database accessible through reachback. Structurally, the infosphere can be broken into five interconnected subsystems and their enabling processes:

- *Information transport.* This is the backbone that carries information, includes assets within the SBCT, and reaches out for information beyond the SBCT.
- *Digital battle command.* Currently dominated by the Army Battle Command System (ABCS), digital battle command includes the systems that facilitate information management, collaborative planning, and assist in maintaining situational awareness.
- *Intelligence, surveillance, and reconnaissance* (ISR). More than just sensors, ISR includes the process for collecting, analyzing, and disseminating ISR information and intelligence.
- *Combat service support* (CSS) *information systems.* The ability to anticipate logistics requirements is enhanced by CSS information systems, which form a thread within the infosphere and are a key element in the unit's ability to sustain itself in distributed operations.
- *Command posts* (CPs). CPs serve as the command and control (C2) synchronization node and are the points where other subsystems come together.

Current Assessment

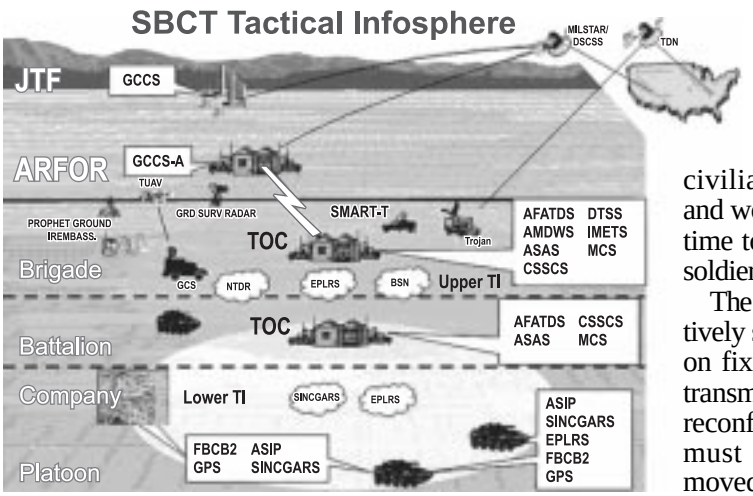
The Army has only now fielded its first two SBCTs, and there are not enough planned training events to test the full employment of the C4ISR and completely evaluate the commanders' ability to gain information superiority. Still, parts of the C4-ISR have been used in various exercises, including a highly successful brigade warfighter exercise in September 2001 and Millennium Challenge in August 2002. Also, it is possible to estimate expected performance using data from the joint contingency force advanced warfighting experiments and from the 4th Infantry Division's Division Capstone Exercises (DCX) I and II. (SBCT was a player unit in DCX II.)

Information transport. The current SBCT information transport subsystem can be further subdivided into several components: digital tactical Internets (TIs); FM voice; high frequency (HF) long-range communications; and satellite communications. In terms of what is new, the presence of a well-developed TI and satellite communications at brigade level and below are unique to the SBCT.

The C4ISR capability is not merely limited to equipment. It includes consideration of the flow of information and how leaders use that information. Information gathers include HUMINT sources such as soldiers and civilians on the battlefield.

For terrestrial digital communications, the SBCT incorporates a TI that consists of the low-bandwidth Enhanced Position Locating Radio System (EPLRS) and the Near Term Digital Radio (NTDR). The EPLRS provides primary digital communications for battalion and below. The NTDR has more bandwidth and forms the backbone of the upper TI, providing communications from battalion to brigade.

The TI is admittedly immature at this stage, and the SBCT has not had many opportunities to employ it. Maintenance and troubleshooting challenges are expected from DCX I, where much of the same technology was employed. The TI is extremely brittle and difficult to diagnose. Small problems can cause large disconnects. Experience at Fort Lewis has shown that the TI requires a high degree of expertise to ensure proper maintenance. This expertise is normally only available with civilian contractors and would take some time to develop with soldiers in the field.



The network is relatively static and relies on fixed relay or retransmission sites. To reconfigure, the sites must be physically moved. This method

US Army

Soldiers retrieving information in a SBCT tactical operations center, 28 February 2003.

Current digital CPs are a step forward from their analog predecessors. Their modular design allows CPs to conduct a variety of operations. Also, both the RSTA squadron and field artillery battalion CPs can integrate into the SBCT main CP if the situation dictates. This CP configuration centralizes ISR and lethal and nonlethal effects-targeting efforts.

contrasts with emerging Unit of Action concepts that envision an infostructure that moves with the unit. In the SBCT, units will move in and out of a fairly set network.

Bandwidth dramatically affects information management. The relatively small bandwidth capacity of both the upper and lower TIs forces the unit to make hard choices of when and how to send information. Sending a large file, such as a graphic-heavy operations order or intelligence update, will clog the network. Since there is no dynamic bandwidth allocation, the digital pipes are filled on a first-come, first-served basis. Managing the system to send the right information at the right time and in the right size will require clear, unambiguous procedures and ruthless discipline.

Long-haul satellite information transport outside the SBCT is provided by the proven, yet bandwidth stingy, TROJAN SPIRIT. The SBCT has not experienced an opportunity to fully employ this system, but TROJAN SPIRIT is employed throughout the Army and is not expected to have a different application with the SBCT.

A second satellite system for intratheater communications is the Secure Mobile Antijam Reliable Tactical Terminal, or SMART-T. HMMWV-mounted like TROJAN SPIRIT, this is a HF, unattended terminal that was used effectively during DCX II. Though typically found at division and above, the SMART-T allows the SBCT to exercise greater dispersion while maintaining secure communications. However, using any satellite-based system requires scheduling satellite time and establishing techniques and protocols to work with the digital gateway, such as the TROJAN SPIRIT Gateway at Fort Belvoir, Virginia, or the military satellites supporting SMART-T.

The SBCT's use of organic satellite communications has exceptional and direct application to facilitating information superiority. If allocated and leveraged properly, the SBCT commander can have real-time and near-real-time access to worldwide intelligence.

Digital battle command. The SBCT incorporates a full suite of ABCS systems to acquire situational awareness and facilitate command and control (C2). With Force XXI Battle Command Battalion/Brigade and Below (FBCB2) at platform level and battlefield operating systems at battalion and above, the SBCT can establish and share a common operating picture (COP) working from a joint common database (JCDB).

The SBCT is keeping pace with ABCS development, but it is clear that there are currently some challenges as ABCS matures. ABCS is developing into a "system of systems" from essentially stovepipe systems. Seamless interoperability is promoted but not currently assured. With rapid changes in software, the systems require intensive training for operators and leaders and normally necessitate a great deal of contractor support during training exercises. Experience shows that to use digital battle command technologies effectively, units need well thought-out and well-drilled information management methods (nested in digital standard operating procedures [SOPs]).

The SBCT has several tools that enable some degree of collaborative and parallel planning, horizontally and vertically. Possessing limited battlefield VTC at brigade level, the brigade relies on NetMeeting-like capabilities for horizontal and vertical collaboration. Unfortunately, the relatively high-bandwidth requirement makes fully using these capabilities impractical without excluding all other traffic in the network.

Intelligence, surveillance, and reconnaissance. Within the realm of ISR, the number of sen-

sors and information gatherers available to the SBCT is impressive and includes organic unmanned aerial vehicles (UAV) and access to national assets via TROJAN SPIRIT.

Integrating existing ISR assets into the SBCT is successful and great strides are being made as the unit employs its assets and develops supporting tactics, techniques, and procedures (TTP). However, some system challenges exist. The majority of ISR systems were in stovepipe development before the creation of the SBCT. Typically, there is minimal digital interface between each system, and they generally work alone. What is needed is a centralized asset collection and processing system. This would make analysis more efficient and aid dissemination. The emerging distributed common ground system-Army (DCGS-A) should integrate these various sensor grids.

Current challenges also involve establishing TTP for unity of effort in managing ISR assets, collection, analysis, and dissemination. The ISR effort is borne by RSTA, brigade S2, military intelligence (MI) company, and infantry battalions; orchestration of these requires forethought, training, and clear SOPs.

The SBCT has significant HUMINT assets that are critical in urban operations. They are drawn from the Reserve Component (RC). Unfortunately, no procedures exist to conduct habitual training with these units. Also, there is concern about the training, readiness, and ability to integrate the nonorganic HUMINT teams into the SBCT.

CSS information systems. A streamlined SBCT with reduced footprint requires planners to anticipate logistics requirements. Systems that permit total asset visibility and management, rapid identification of requirements, and a precise flow of logistics minimize waste and excess inventory.

The logistics community at Fort Lewis, Washington, is using an assortment of digital systems to analyze the logistics flow from the end-user backward through the continental United States (CONUS)-based depot to the supplier; however, a requirement that these systems work together has hampered its analysis. The evolving global combat service support proposes a more complete and centralized logistics view. Yet, its development is uncertain. Units must work with what they have.

CSS digital systems are unable to use the digital information transport system described earlier. Although Warfighting Information Network-Tactical (WIN-T) promised multilevel security, current policies and practices prohibit transfer of sensitive but unclassified data, which makes up much of the logistics data over the SECRET TI. Costly high-assurance guards allow SBU data to pass over the SECRET TI, but no dedicated digital network for logistics data exists.

Command posts. The current SBCT command post structure is a series of integrated HMMWVs with modular Standardized Integrated Command Post Structure shelters. CPs provide a place for an internal, hardwire, local-area network that facilitates collaboration, while hosting a variety of C4ISR equipment that includes ABCS.

Current digital CPs are a step forward from their analog predecessors. Their modular design allows CPs to conduct a variety of operations. Also, RSTA squadron and field artillery battalion CPs can integrate into the SBCT main CP if the situation dictates. This CP configuration centralizes the ISR and the lethal and nonlethal effects-targeting efforts.

The combat information center (CIC) is an innovative feature within the CPs that facilitates parallel and collaborative planning. A knowledge center, the CIC, is a series of plasma screens that display multiple, centralized inputs from DBC or various sensors. With key staff and commanders either physically or virtually interfacing through the CIC, the SBCT has improved its collaborative and parallel planning.

US Army

Satellite acquisition with a SMART-T is demonstrated to members of the 369th Signal Battalion, 18 February 2003.

Long-haul satellite information transport outside the SBCT is provided by the proven, yet bandwidth stingy, TROJAN SPIRIT. . . . A second satellite system for intratheater communications is the Secure Mobile Antijam Reliable Tactical Terminal, or SMART-T. HMMWV-mounted like TROJAN SPIRIT, this is a high-frequency, unattended terminal that . . . allows the SBCT to exercise greater dispersion while maintaining secure communications.

The SBCT's CPs include the tactical, main, and rear CPs. With intratheater communications (SMART-T) and Trojan Spirit connectivity, the CPs can maintain maximum dispersion to minimize the footprint in areas requiring extensive force protection.

TRADOC is aggressively reviewing CP doctrine. Though deployable and mobile, the extensive C4ISR packages and supporting infrastructure make vehicle transportability a major concern. The power generation system originally fielded to the unit was based around the auxiliary power units fielded with the rigid-wall shelters, as well as selected 10 kilowatt towed and skid-mounted generators. This resulted in a power-generation system that was unbalanced, inconsistent, difficult to manage, and hazardous because of noise and noxious fumes. Recent modifications incorporate centralized power plants that provide balanced power and actually minimize the CP's signature.

The CP, especially the main CP, is susceptible to electromagnetic interference from radio frequency emitters. This is notably acute in the main CP. Grounding and dispersion reduces their impact. Leaders must consider these effects when establishing the CP and then adjust.

Many CP issues center on the C4ISR-intensive command version of the Stryker. Stryker command vehicles will undergo many of the same challenges as the CPs themselves.

The Future

Fortunately, the Fort Lewis program has ties throughout the Army to make C4ISR a process for attaining information superiority. To ensure that C4ISR stays on the correct path, several procedures should be followed. First and foremost, there must be a clear, active, authoritative proponent for C4ISR that ensures that C4ISR development is tied to the operational concepts it supports. This cannot be a single branch such as signal intelligence or MI, since C4ISR permeates the entire combined arms team. Within TRADOC, the Combined Arms Center (CAC) at Fort Leavenworth, Kansas, was recently named as the overall proponent; however, all Army schools must actively participate. CAC must develop and sustain a vision for C4ISR that is applicable vertically and horizontally across the battlespace.

As Interim Forces work with the available C4ISR suites and serve as experiential laboratories, the Army must apply the lessons to Objective Force development. It involves a firm linkage between the Objective Force C4ISR development community and the Interim Force.

The Interim Force must train to fight using existing C4ISR systems and concepts; however, emerging doctrine and TTPs are based on a nonexistent Objective Force capability. The unit, then, is left to improvise "work arounds" and highly perishable short-term solutions. The Army needs to be fluid enough to recognize that C4ISR development is dynamic and not necessarily linear. Doctrine and TTP should correspond to these Interim Force systems so that soldiers can fight using what they have now.

Current materiel developmental business practices that rely on rigidly developed operational requirement documents cannot keep pace with dynamic requirements and developments. Current system development and procurement processes do not promote the seamlessness needed in such complex multisystems as command posts. Consequently, CPs suffer from the "pick-up team" syndrome symptomatic of a collection of loosely affiliated systems.

In the past, units going to the field brought radios, tentage, and other components to make the CP work. The Army is moving away from the era, however, when intuitive knowledge alone ensures that all systems fit neatly together. Today, CPs require a high degree of integration that is not available in most units.

Coupled with the heavy TRADOC and materiel developer on-site presence, I Corps and the SBCTs at Fort Lewis are raising the emerging Interim Forces' understanding of C4ISR and its use in assisting the commander to gain information superiority. The entire community is integrating imperfect systems in various stages of development, including the development of sound TTP that maximize system capability.

The magnitude of the effort will require a clear, firm vision to realize C4ISR's potential. This might involve some reorganization and reengineering of how the Army does business. It also must be done in concert with the sister services. Without a doubt, though, the Army is on the right track toward achieving information superiority and providing commanders with the needed tools to get the right force to the right place at the right time. ***MR***

NOTES

1. *SBCT Organization & Operations (O&O)*, chap. 4 (publishing information unknown).
2. U.S. Army Field Manual (FM) 3-0, *Operations* (Washington, DC: U.S. Government Printing Office, 14 June 2001), 11-2.
3. U.S. Army White Paper, "Concepts for the Objective Force" (publishing information unknown).
4. Ibid., 10.
5. James M. Dubik, "The Army's 'Twofer': The Dual Role of the Interim Force," The Institute of Land Warfare, AUSA (October 2001).

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Is Hope the Only Method?

The U.S. Army is experiencing an identity crisis. How should the Transformation Army look? Past emphasis has been on leadership competencies. Should future emphasis be on overall organizational effectiveness? If so, the Army will need to take a hard look at management theory. Colonel Christopher R. Paparone suggests ways to begin.

[B]y projecting itself onto its environment, an organization develops a self-referential appreciation of its own identity, which, in turn, permits the organization to act in relation to its environment.

—Peter S. Ring and Andrew H. Van De Ven[1]

THE U.S. ARMY is experiencing an identity crisis spurred by a discrepancy between how it views itself and how others view it. The crisis is compounded by the Army's failure to develop a strong theoretical basis for self-analysis. The most recent evidence of this identity crisis is the ongoing, top-down change approach labeled Army Transformation, which was the Army's response to the 1999 problems of deploying Task Force (TF) Hawk in support of operations in Albania. The Army currently has an inadequate theoretical view of itself as an organization. Hence, the Army can only hope to make sense of itself and its environment, especially when it uses only single episodes of performance and a romantic ideal of leadership to judge its organizational effectiveness. Challenging the Army's organizational and managerial assumptions is nearly impossible if the assumptions are not open to professional review.

Maintaining a theoretically sound organizational self-identity is especially vital to large, complex organizations such as the Army. Whether an organization changes itself effectively or poorly depends largely on its self-interpretation and professional willingness to be self-critical, especially within the context of a turbulent environment. Ideally, large organizations can process substantial human, financial, and material resources so as to perform effectively in their environment. Getting the organizational analysis right is critical to the organization's gaining insight into itself and to understanding its organizational effectiveness.[2]

The Army lacks a cogent, overarching theory of itself, its relation to the environment, and its commitment to reflexivity.[3] These shortfalls reveal an important practical issue. Since its abdication of a systemwide theory of organization and management, the Army has invested little intellectual attention to organization and management theory.[4] The Army has approached organization and management with ephemeral, pop-management prescriptions such as Management-by-Objectives (MBO), Total Quality Management, and now, the "balanced scorecard."[5] The prescriptions are analogous to a doctor's prescribing medication before diagnosing the problem.

In the last decade, the Army's emphasis has been on inculcating the charismatic leadership competencies and temporary, pop-management prescriptions into its organization. The problem with a leadership-only theory of success is that leadership is not an end to itself. There is no point to developing leaders if the Army does not have a well-developed understanding of its self-evident purpose—to be an effective organization.

Without diagnosing a comprehensive organizational self-image, real transformation will be serendipitous. Contrary to former Army Chief of Staff (CSA) General Gordon R. Sullivan, hope becomes the *only* method to bring about change.[6]

In the last decade, the Army's emphasis has been on inculcating charismatic leadership competencies and temporary, pop-management prescriptions into its organization.[7] The problem with a leadership-only theory of success is that leadership is not an end to itself. There is no point to developing leaders if the Army does not have a well-developed understanding of its self-evident purpose—to be an effective organization. The Army will not have an adequate understanding of its organizational effectiveness without a deep, encompassing appreciation of organization and management theory.

To regain a healthy organizational identity, reflexivity, and appropriate philosophies, the Army must address three critical questions:

1. What is the "nature of the beast?"
2. What can a theoretical framework offer the Army in terms of self-analysis?
3. Which management philosophy provides a continuous self-imaging and reflexive (self-doubting) process yet is compatible with the Army's culture?

The Nature of the Beast

No matter what you have to do with an organization—whether you are going to study it, work in it, consult for it, subvert it, or use it in the interest of another organization—you must have some view of the nature of the beast with which you are dealing.

—Charles B. Perrow[8]

In the Army's premier organizational management publication, *How the Army Runs*, only 3 of the 361 chapter endnotes are from nonmilitary sources.[9] This small list accounts for less than 1 percent of the referenced sources. The systems-level handbook refers almost exclusively to Army, Department of Defense (DOD), or other government documents. This closed-system feedback indicates single-loop learning and prevents a higher form of processing feedback, known as Deutero learning (learning how to learn).[10] Perhaps the handbook's publisher, the U.S. Army War College (USAWC), should publish a complementary book on "how the Army *should* run," with substantial references to nonofficial literature. Similar criticism can be made with other Army official literature.[11]

Professional Army journals show an equally disappointing trend. During the 2000 publishing year, only 1 in 10 articles in the two general-topic journals, *Military Review* and *Parameters*, addressed organization and management issues.[12] Most of the articles address leadership theory and practice, leaving about 1 in 100 concerned with other problems of theory of Army organization, management, and practice. Compare this trend with the 1970s and 1980s when the Army contributed to or published the following journals (all of which are now defunct): *Army Administrator: Magazine for Military Managers* (1973-1980); *Organizational Effectiveness Communiqué* (1977-1981); *Defense Management Journal* (1978-1987); *Army Organizational Effectiveness Journal* (1983-1984).

Today, no such general organization and management journals exist. It is nearly impossible for a large organization to be reflexive if its professional journals do not support management, leadership, and organizational self-criticism.

The Army's self-study of leadership has taken a closed-systems approach.[13] For example, the Army developed ideal characteristics of strategic leaders based primarily on structured interviews conducted with senior military officers and senior government executives. The Army validated this data by interviewing USAWC students, asking them to describe the most and least effective leaders they knew. The Army used the resulting list of factors to develop a Strategic Leader Development Inventory to help future strategic leaders assess strengths and weaknesses. In addition, the study supported a model of strategic leadership now employed Armywide as doctrine.[14] This methodology is analogous to the blind leading the blind. If the Army is experiencing organizational-effectiveness issues stemming from senior-leader qualities, the Army's leadership system risks perpetuating the same ineffectual qualities now vaunted as the standards for strategic leadership. This is a problem of mirror imaging.

Army CSA General Eric K. Shinseki's professional reading list indicates the same pattern. The

US Army

U.S. Air Force controllers coordinate the long-awaited arrival of Black Hawk helicopters at Tirana, Albania.

The crisis of this self-misunderstanding is manifested in unexplainable symptomatic weaknesses, such as episodic recruiting and retention issues, quality of life problems, disillusionment within the ranks, and most influential, operational issues such as those experienced by TF Hawk in 1999, on which the Army has built its current self-evaluation of overall organizational effectiveness. Shinseki tied his vision for transforming the nearly one-million -soldier Army directly to the six-thousand-soldier TF Hawk case study.

list does not include a single book or article on organization or management; all are historical military nonfiction or fiction. The omission of works about organization and managment is significant. There are seminal works in these areas that Army professionals cannot ignore.

Unfortunately, these data reflect a shallow organizational and managerial self-identity. The crisis of this self-misunderstanding is manifested in unexplainable symptomatic weaknesses, such as episodic recruiting and retention issues, quality of life problems, disillusionment within the ranks, and most influential, operational issues such as those experienced by TF Hawk in 1999, on which the Army has built its current self-evaluation of overall organizational effectiveness. Shinseki tied his vision for transforming the nearly one-million-soldier Army directly to the six-thousand-soldier TF Hawk case study.[15] Clearly, the Army now lacks a theory for discerning itself, analogous to an individual pursuing a social identity by looking into a mirror. This lack of a theoretical foundation has led the Army to misdiagnose its organization and management problems because it has not paid proper attention to developing a more complete self-image.

A healthy Army identity would have better facilitated strategic change and would have better directed the quest for stability in a turbulent environment. Like other social activities, studying institutional-level behavior using a more open theory would account for strains (or a reason to change), readiness to change, ideology (justification for existence), and conflict (problems of integration and differentiation). Failure to "know thyself," to understand how one's own subsystems interact within a larger system of organizations within an environment, has led the Army to its current identity crisis.

A Theoretical Framework That Offers Self-Analysis

A theoretical view of Army organizational effectiveness should include multiple perspectives because of the variation in importance and types of Army organizations and technologies. The four dominant

Corps of Engineer personnel inspect a bridge in San Francisco Bay, July 2000.

US Army

[One way] to to determine the Army's organizational effectiveness [is its contribution] to the "suprasystem," which legitimizes an organization through, in the Army's case, its contribution to a higher social structure. Besides winning wars, contributions might include Corps of Engineers construction projects and better educated citizens (courtesy of the GI Bill) who return to private life with inculcated Army values.

organization and management models are the human relations model, open systems model, rational goal model, and the internal process model.[16] A fifth possible model is a synthesized model, the competing values framework.[17]

The human relations model. The human relations model of organizational effectiveness rates effectiveness as the degree of cooperation in the organization. The only reason to have an organization is "the need of the individual to accomplish purposes to which he is by himself biologically unequal."[18] Therefore, "when the purpose of a system of cooperation [that is, organization] is attained, we say cooperation was effective; if not attained, ineffective."[19] The degree to which Army activities relate well to the external environment while keeping its members satisfied (an internal orientation) determines the organization's survival. The leader's role is to ensure that these processes work well.

The quest for human cooperation can be problematic. Philip Selznick depicts organizations as a collection of contentious interest groups.[20] These groups emerge in and around organizations, then develop defensive ideologies. Selznick writes, "The more precise an organization's goals, and the more specialized and technical its operations, the less opportunity will there be for social forces to affect its development."[21] He places the matter of conflict-management squarely on the back of executive leadership: "A problem of institutional leadership, as of statesmanship generally, is to see that elites do exist and function while inhibiting their tendency to become sealed off and to be more concerned with their own fate than with that of the enterprise as a whole."[22]

From Selznick's view, an Army strategic leader's ideal role would be to increase organized effectiveness through a "committed polity" by defining the institution's mission and role, promoting institutional embodiment of purpose, defending institutional integrity, and making order of internal conflict (maintaining an internal balance of power). This approach is largely incompatible with the Army's current charismatic, top-down leadership model.[23] The Army's emphasis on management goals and charismatic-leadership as means to effectiveness tends to ignore organizational politics, a factor of an organization's dynamics outside the Army's espoused values. By

ignoring organizational politics as a dimension of human-relations effectiveness, the Army has institutionally dismissed studying reality and the recurring basis for political favoritism and exploitation.[24]

The open systems approach. The open systems model of organizational effectiveness, or the basic input, process, and output model, defines organizational effectiveness as "the maximization of return to the organization by . . . economic and technical means [that is, determine efficiency] . . . and political means."[25] Five ways to determine the Army's organizational effectiveness under this paradigm follow:

1. Preferential ordering of constituencies, which include internal interest groups and dominant coalitions such as basic branches, unit associations, and general officers and their staffs.

2. Survival, which addresses the Army's successful search for relevance through participation in peace operations, disaster-relief operations, and other nontraditional activities.

3. A culture of innovation that addresses the Army's change process that should give responsibility and authority for change to the field Army rather than to the departmental or "administrative" Army.

4. Throughput, which measures how well the Army satisfies the immediate demands of Congress, the media, the public, and other groups outside the Army.

5. Contributing to the "suprasystem," which legitimizes an organization through, in the Army's case, its contribution to a higher social structure. Besides winning wars, contributions might include Corps of Engineers construction projects and better educated citizens (courtesy of the GI Bill) who return to private life with inculcated Army values.[26]

The rational goals model. The rational goals view of organizational effectiveness reflects early Taylorist thinking about the behavior of organizations.[27] A preferential ordering of goals is similar to the outcomes of a rational decisionmaking process of operations-research methods.

Amitai Etzioni considers organizational effectiveness another name for goal achievement. He says, "Goals . . . constitute a source of legitimacy which justifies the activities of an organization and, indeed, its very existence."[28] Ineffectiveness results from straying from or abandoning organizational goals.

Graham T. Allison, in his 1969 seminal evaluation of the Cuban Missile Crisis, explained what he called the rational actor model.[29] The rational process of decisionmaking involves recognizing problems, based on relevant values and objectives; developing alternatives; estimating the consequences of alternatives; calculating the net value of consequences; and choosing the alternative that maximizes value. This way of determining effectiveness not only appeals to the Army's culture, it approaches the essence of the institution's ideology. The Army War College uses the ends, ways, and means approach to explain the strategy process, and it uses case studies to illustrate their importance in rational analysis of effectiveness.[30] Since 1980, the Army has based officer performance ratings on a rational MBO scheme. The Army has thoroughly institutionalized a rational military decisionmaking process, a complex 38-step procedure.[31] The goals approach to organizational effectiveness is inherent to the Army institution, yet might be at the root of the Army's identity problems.

The rational process of decision-making involves recognizing problems, based on relevant values and objectives; developing alternatives; estimating the consequences of alternatives; calculating the net value of consequences; and choosing the alternative that maximizes value. This way of determining effectiveness not only appeals to the Army's culture, it approaches the essence of the institution's ideology.

The internal process model. Internal coordination is the primary value associated with this model of organizational effectiveness. Standardization, measurement, objectivity, predictability, and control are keys to governing a bureaucratized organization effectively. Rules and procedures guide employees as they accomplish tasks along functional lines and integrate their work with other functions based on rules and procedures. Clearly, this model exemplifies the hierarchical nature of military structures, especially within the institutional or departmental Army and often within the peacetime activities of the field Army. The nature of organizational effectiveness under the rubric of this model should be familiar, especially to members of the TDA Army.[32] This over-emphasis on internal processes is another root of the Army's identity crisis.

The competing values framework. Social scientists Robert E. Quinn and John Rohrbaugh synthesized many aspects of the above approaches into a competing values framework (CVF) to define organizational effectiveness.[33] CVF is a

multidimensional framework that integrates several competing schools of thought on management theory, including all of the previous models, and accounts for paradoxical factors of organizational effectiveness. The framework recognizes the paradoxical and dynamic nature of organizations and their management. CVF accounts for the ways mentioned in the previous four approaches and adds the "pull and tug" or inherent competition of values associated with each model in an organization. All of the models apply to some degree in all organizations.

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The four competing management models create archetypes of means and ends when plotted on two axes. The north-south axis portrays the flexibility versus control paradox; the second depicts the people (internal focus on members and technologies) versus organization (external focus on the organization within an environment) paradox. The theoretical complexity of CVF is quite valuable to students of organization and management theories because it accounts for multiple time orientations and paradoxes in organizations where other models are too simple to do so.[34] CVF retains the possibility of making discriminations among competing interpretations because it is a meta-paradigm theory.[35]

CVF views organizational effectiveness as a judgment call (or a matter of diagnosis) based on the organization's performance in all four quadrants.[36] Since CVF's inception, many studies have followed, extending application to a host of organization and management areas, including executive leadership, management mastery, group decisionmaking, ethics, organizational culture, transformation, policy reform, business communications, management information systems, human resource development, and management training and development.[37]

The CVF has achieved a general framework status in organizational and management theory and practice. However, the Army has not recognized CVF's potential contribution to organizational effectiveness.

Appropriate Management Philosophy in Self-Imaging

Empirical research supports CVF's practicality because it seems to account for organizational effectiveness and differences in organizational culture and leadership styles. For example, building on the framework, researchers developed an integrative model of executive leadership roles, then tested the model empirically.[38] Leaders with high behavioral complexity (the ability to deal in competing value situations) appear to produce the best performance. In other words, those who master diverse and seemingly conflicting leadership roles deliver higher performance than those who possess lopsided approaches. When applied to leaders, the resulting integrative model posits four competing demands that all top managers and executive leaders face. (Note how these match up with the four quadrants of competing values in figure 1.)

1. Commitment—developing and motivating people and maintaining a distinctive identity and value system (associated with the human relations model).

2. Innovation—positioning the organization in terms of strategic direction and missions (associated with the open systems model).

3. Performance—executing plans and achieving results in competition with others (associated with the rational goal model).

4. Efficiency—managing ongoing operations and critically evaluating alternative projects and programs (associated with the internal process model).[39]

Leader roles associated with competing demands in the model correspond to the following:

- The motivator (stirs meaning, excitement, cause worth fighting for, lots of symbolism, story-telling).
- The vision-setter (senses, provides a compelling mission and sense of identity).

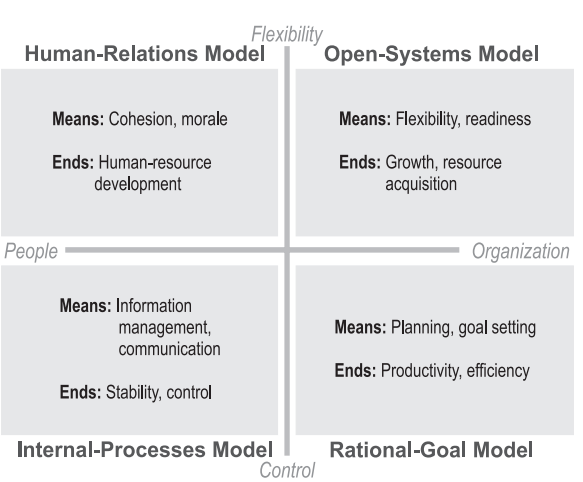

Figure 1. Competing value sets and effectiveness models.

- The taskmaster (is concerned with performance and results, serving stakeholders, uses hands-on leadership style).
- The analyzer (sets contexts and shapes decisions that operating systems make).[40]

The Army presently displays symptoms of a closed system fraught with unrecognized competing values, being somewhat obsessed with the rational goals and internal process models of effectiveness. By accepting this conclusion, several propositions concerning Army self-imaging and adoption of a flexible management philosophy come to mind.

Proposition 1. *The Army should assess its organization and management identity using multiple models of organization and management theory.*

The Army must revise and maintain its description of its systems of command, leadership, and management and update it after a thorough review of the last 10 years of study in organization and management theory.

Proposition 2. *The Army should develop multiple ways of analysis and synthesis toward understanding its own organizational effectiveness among competing values.*

This proposition does not suggest abandoning the traditional goals-based model, the Weberian-based charismatic leadership model, or the "lessons learned from the last operation" model. Rather, the Army should have multiple and continuous ways to examine itself in its many domains in peace and war. Using various perspectives allows the investigator to map technical core activities, managerial-level actions, and strategies at the institutional level, not unlike topographers mapping terrain. This mapping process is beneficial to all levels and should not be limited to the macro-perspective of the Army's formal change agents—the U.S. Army Training and Doctrine Command and the U.S. Army Materiel Command.

As an example of this proposition's power, figures 2 and 3 demonstrate snapshots of the Army operating in dual domains. The implications of domain duality are clear. The dissonance of any changes the Army pursues in the departmental domain is largely because of a failure to recognize what domain leadership is addressing (or acting on). Part of the failure results from the Army not taking a systemwide view of itself as it tries to adapt to (at least) two domains with competing values. The CVF provides a continuous process for evaluating Army effectiveness in multiple domains. Transformation in two domains becomes a matter of changing the emphasis in four areas.

If the Army is experiencing organizational-effectiveness issues stemming from senior-leader qualities, the Army's leadership system risks perpetuating the same ineffectual qualities now vaunted as the standards for strategic leadership. This is a problem of mirror imaging.

Proposition 3. *The Army should consider adopting the competing values framework as a systemwide organization and management paradigm.*

This proposition does not suggest that the Army ignore the supporting four approaches to organization effectiveness or pay attention only to the theory, research, and practice of the competing values framework. On the contrary, to understand fully this macro-theory, the Army, as a profession, must

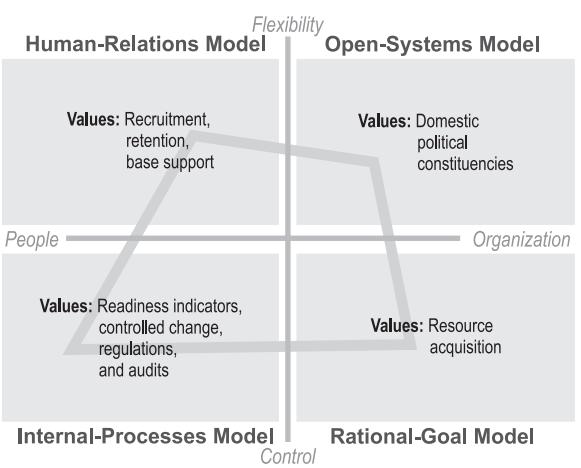

Figure 2. The Army as a department.

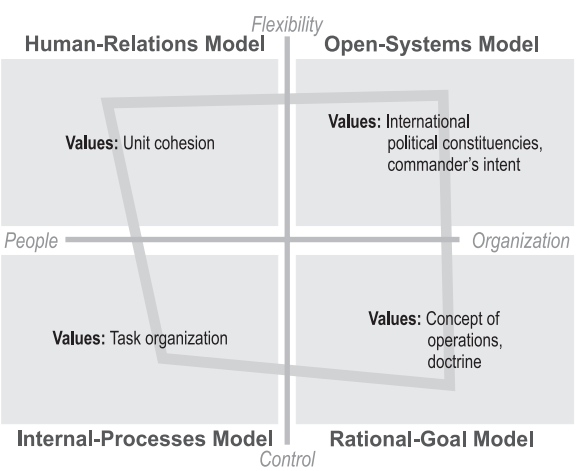

Figure 3. The fielded Army.

understand the complex theoretical underpinnings of all the supporting organizational effectiveness approaches. Understanding all four approaches requires the Army to commit to accepting a comprehensive organizational effectiveness philosophy that transcends the Army's emphasis on heroic leadership, rational goal-seeking, and internal process improvement.

Since 1980, the Army has based officer performance ratings on a rational MBO scheme. The Army has thoroughly institutionalized a rational military decisionmaking process, a complex 38-step procedure. The goals approach to organizational effectiveness is inherent to the Army institution, yet might be at the root of the Army's identity problems.

A systematic evaluation of competing values of organizational effectiveness will yield a pattern of Army identity as well as a useful diagnosis of suborganizations operating in different domains of the environment. This approach will allow a deeper, more compelling emergence of a transformation strategy that considers more than a single, post-operation measure of organizational effectiveness. The leadership challenge is not to emphasize one model over another but to address the appropriate pattern of emphasis on all four approaches that best meets the internal, external, flexibility, and control requirements in the particular context at hand. In fact, a highly adaptive organization can alter these patterns without a hierarchical form of leadership and management. In an adaptive organization, leadership becomes the "management of meaning," creating a shared meaning of what that pattern should be.[41]

Proposition 4. *The Army must ensure its education system is serving a healthy organizational reflexivity and managerial identity.*

An example of competing values that the Army educational system might address is when field Army's technicians and managers conduct boundary-spanning activities that break the "closed system" shields that protect the departmental domain. Such activities will engender interaction and change in a departmental Army or institutional Army. The Army's educational processes must deal with this kind of value conflict more systematically.

The Army must promote the importance of professional organizational reflexivity and create more opportunities for debate between soldiers and civilians. The Army also should bring back at least one professional journal concerned with these debates. Army publications dealing with leadership, management, and organization should document sources (the mark of a profession) that are transdisciplinary and outside DOD's existing body of literature.

Proposition 5. *Organization and management theory should be integrated into a multilens (topographic) approach to strategic thinking rather than the Army's traditional heroic leadership, goals (ends, ways, and means), and internal process improvement approaches.*

For example, the USAWC's compartmentalization of organization and management, national military strategy, and campaigning in its curriculum is unnecessary and counterproductive. The Army can formulate strategy and continuously assess itself in a more integrative manner.[42] Greater environmental appreciation, creativity, and a richer national strategy results from blending organization, management, and political-military areas of study.

Proposition 6. *Establishing an organization and management identity makes a more comprehensive and continuous organizational transformation process possible.*

The Army has designed a campaign for an Army Transformation that promotes an underdeveloped organization and management self-image.[43] Changing the Army's structure while the Army is trapped in a closed system of organizational effectiveness theory leads to structural inertia.[44] Structural inertia occurs when "in a world of high uncertainty, adaptive efforts . . . turn out to be essentially random with respect to future value."[45] The outcome might be an Army structural mismatch, where hope *was* the only method. ***MR***

NOTES

1. Peter S. Ring and Andrew H. Van De Ven, "Developmental Process of Cooperative Interorganizational Relationships," *Academy of Management Journal* 19 (1994): 100. Ring and Van De Ven maintain that the sense of identity in relation to others and construction of a common external factual order regarding social relations derive from the need for "sense making."

2. See two seminal works: James D. Thompson, *Organizations in Action* (New York: McGraw-Hill, 1967) and Daniel Katz and Robert L. Kahn, *The Social Psychology of Organizations,* 2d ed. (New York: John Wiley & Sons, 1978).

3. A reflexive organization continuously examines its own roots of argument and considers other assumptions, purposefully creating dissonance to create opportunities for transcendence or transformation. For more on this subject, see Cynthia Hardy, Nelson Phillips, and Stewart Clegg, "Reflexivity in Organization and Management Theory: A Study of the Production of the Research Subject," *Human Relations* 54, no. 5 (2001): 531-60. These researchers define reflexivity as "an awareness of the situatedness of scientific knowledge and an understanding of the researcher and research community from which knowledge has appeared" (554). See also Ray Holland, "Reflexivity," *Human Relations* 52, no. 4 (1999): 463-84. Holland defines "transdisciplinary reflexivity" as going beyond the traditional view of unidisciplinary reflexivity and into four levels of reflexive analysis (474). To find meaning, the organization must be willing to look outside itself "transorganizationally" to question itself and its organization-centric paradigms.

4. Christopher R. Paparone, "Piercing the Corporate Veil: OE and Army Transformation," *Military Review* (March-April 2001): 78-82.

5. Robert S. Kaplan and David P. Norton, *The Balanced Scorecard: Translating Strategy into Action* (Boston: Harvard Business School, 1996).

6. Gordon R. Sullivan and Michael V. Harper, *Hope is Not a Method: What Business Leaders Can Learn from America's Army* (New York: Broadway Books, 1997).

7. Refers to Max Weber's early 19th-century notions of charismatic leadership—leadership that serves to lead adaptive action by rational determination of ends and means. As adaptation becomes more institutionalized, the leader transfers power to the "expert bureaucrat." Weber's notions epitomize the current Army orientation on "strategic leadership" and its bureaucratic (incremental) approach to transformation; U.S. Department of the Army (DA) Field Manual (FM) 22-100, *Army Leadership: Be, Know and Do* (Washington, DC: U.S. Government Publishing Office [GPO], June 1999).

8. Charles B. Perrow, *Organizational Analysis: A Sociological View* (Belmont, CA: Brooks/Cole, 1970), 1.

9. DA, *How the Army Runs: A Senior Leader Reference Book* (Carlisle, PA: U.S. Army War College [USAWC], 1999). Since this research was conducted, a newer version of *How the Army Runs* was published in 2001. Even the last remnants of nonmilitary references appear to have been removed since the original version.

10. S.A. Mohrman and T.G. Cummings, *Self-Designing Organizations: Learning How to Create High Performance* (Reading, MA: Addison-Wesley, 1989). According to Mohrman and Cummings, single-loop learning is the "lowest level of action learning" (125). In short, this involves improving business as usual without changing the organization's values. Double-loop learning involves "changing the existing organizational values," creating a deeper change process (126). Deutero learning, important in designing high-performing organizations, involves making single- and double-loop learning part of a nonstop learning-to-learn change process (129-30). Learning and transformation is not episodic, but a continuous progression that involves simultaneous action at all levels.

11. See, for example, Field Manual (FM) 100-1, *The Army* (Washington, DC: GPO, 14 June 2001); DA Pamphlet 10-1, *Organization of the United States Army* (Washington, DC: GPO, 14 June 1994); and FM 22-100.

12. A review of the topic areas during a recent 12-month period (*Military Review* and *Parameters* from January 2000 to December 2000) reveals that of 106 and 37 articles, respectively, 10 (9 percent) and 5 (14 percent) pertain to general organization and management topics. The total was 15 of 143 articles (roughly 10 percent).

13. Thomas Owen Jacobs, *A Guide to the Leader Development Inventory* (Carlisle, PA: USAWC, 1998). Much of this work is based on the theories of social scientist Elliot Jacques, who indicated an absolute need for hierarchy in organizations. See also Jacques, "The Development of Intellectual Capability: A Discussion of Stratified Systems Theory," *The Journal of Applied Behavioral Sciences* 22, no. 4 (date unknown): 361-83.

14. FM 22-100.

15. General Eric K. Shinseki took the Army chief of staff position directly after his previous dual positions as commander of U.S. Army Europe and as the NATO commander-on-the-ground in Bosnia. He witnessed the difficulties of deploying Army forces into an Albanian area of operations, which had the poorest seaport, airport, and road and bridge infrastructures in Europe. The Army Transformation process is designed to lighten up the Army's armor and mechanized units to make them more deployable the next time the Army goes to a place like Albania. The Army did not develop a transformation project from a more comprehensive and continuous approach to organizational effectiveness.

16. For a discussion of the human relations model, see Douglas McGregor, *The Human Side of Enterprise* (New York: McGraw-Hill, 1960); for the open systems model, see Katz and Kahn; for the rational goal model, see Amitai Etzioni, *Modern Organizations* (Englewood Cliffs, NJ: Prentice-Hall, 1964); for the internal process model, see Max Weber, *Sociological Writings,* ed. and trans. Wolf Heydebrand (New York: Continuum, 1999), which is a translated compilation of Weber's original works written during the early 20th century.

17. Robert E. Quinn and John Rohrbaugh, "A Spatial Model of Effectiveness Criteria: Towards a Competing Values Approach to Organizational Analysis," *Management Science* 29, no. 3 (1983): 363-77.

18. Chester I. Barnard, *The Functions of the Executive* (Cambridge, MA: Harvard University, 1968; originally published in 1938), vii.

19. Ibid., 43.

20. Phillip Selznick, *Leadership in Administration: A Sociological Interpretation* (Berkeley: University of California Press, January 1984).

21. Ibid., 16.

22. Ibid., 14.

23. FM 22-100 stresses the hierarchical nature of Army leadership (levels of leadership). For example, "strategic leaders include military and DA civilian leaders at major command through [DOD] levels" (1-12). Organizational effectiveness appears to be limited to the result of leaders developing a force that can fight and win wars, clearly an unpredictable, episodic measure of effectiveness. Yet, this indeed seems to be the dominant, if not single, measure when examining the history of major Army reform (post-1965 Civil War; post-1898 Spanish-American War; post-1918 and World War I; post-1945 World War II, post-1975 Vietnam; post-1991 Cold War; and 1998-Kosovo reforms). By limiting this definition of organizational effectiveness, the Army cannot continuously monitor its effectiveness in a holistic systems manner.

24. The Task Force (TF) Hawk case study reveals the importance of this effect on the "logics of action" to examine at least one significant decision made seemingly under micropolitical vice military-rational criteria. A U.S. corps in Germany was supposed to send a brigade combat team (BCT) to Kosovo once Serbia capitulated, but the decision process to select which BCT was apparently heavily laden with organizational politics. Although the BCT in Albania (part of TF Hawk) was capable of displacing to Macedonia and Kosovo more quickly than any Germany-based BCT, only its company-size elements were redeployed through Macedonia, so that the BCT colors from another "politically favored" Army division would be first into the Kosovo area of operations. Unless the Army acknowledges that such political decisionmaking occurs in the ranks, it cannot develop an honest understanding of itself.

25. Katz and Kahn, 255.

26. Ibid., 239-47.

27. This refers to Frederick Taylor's circa 1910 scientific management concepts.

28. Etzioni, 5.

29. Graham T. Allison, "Conceptual Models and the Cuban Missile Crisis," *Political Science Review* LXIII, no. 3 (1969): 689-718.

30. A.F. Lykke, "Defining Military Strategy," *Military Review* (January-February 1997): 183-86. The arguable reification of this approach at the Army War College has constrained other ways of thinking about strategy. For example, the exercise of combining the dynamic environmental sectors and dimensions (proposed by Katz and Kahn) and mentioned under Proposition 5, might provide an alternative perspective.

31. Paparone, "U.S. Army Decision-Making: Past, Present and Future," *Military Review* (July-August 2001): 45-54.

32. Tables of Distribution and Allowances.

33. Quinn and Rohrbaugh, "A Spatial Model."

34. Joseph Ofori-Dankwa and Scott D. Julian, "Complexifying Organizational Theory: Illustrations Using Time Research," *Academy of Management Review* 26, no. 3 (date unknown): 415-30. CVF is a third-order complexity theory on a scale of one to four.

35. Marrianne W. Lewis and Andrew J. Grimes, "Metatriangulation: Building Theory from Multiple Paradigms," *The Academy of Management Review* 24, no. 4 (1999): 672-90.

36. Quinn and Rohrbaugh, "A Competing Values Approach to Organizational Effectiveness," *Public Productivity Review* (June 1981): 122-40.

37. Stuart L. Hart and Robert E. Quinn, "Roles Executives Play: CEOs, Behavioral Complexity, and Firm Performance," *Human Relations* 46, no. 5 (1993): 543-74; Robert E. Quinn, Sue R. Faerman, Michael P. Thompson, and Michael R. McGrath, *Becoming a Master Manager: A Competency Framework,* 2d ed. (New York: John Wiley & Sons, 1996); Patricia Reagan and John Rohrbaugh, "Group Decision Process Effectiveness," *Group and Organization Studies* 15, no. 1 (1990): 20-43; Betsy Stevens, "Using the Competing Values Framework to Assess Corporate Ethical Codes," *The Journal of Business Communication* 33, no. 1 (1996): 71-84; Larry W. Howard, "Validating the Competing Values Model as a Representation of Organizational Culture," *The International Journal of Organizational Analysis* 6, no. 3 (1998): 231-50; Robert Hooijberg and Frank Petrock, "On Cultural Change: Using the Competing Values Framework to Help Leaders Execute a Transformational Strategy," *Human Resource Management* 32, no. 1 (1993): 29-50; Robert E. Quinn and M.R. McGrath, "The Transformation of Organizational Cultures: A Competing Values Perspective," eds., P.J. Frost, L.F. Moore, M.L. Louis, C.C. Lundberg, and J. Martin, *Organizational Culture* (Beverly Hills, CA: Sage, 1985): 315-34; Carolyn Ban, *How Do Public Managers Manage? Bureaucratic Constraints, Organizational Culture, and the Potential for Reform* (San Francisco, CA: Jossey-Bass, 1995); Robert E. Quinn, Hernert W. Hildebrandt, Priscilla S. Rogers, and Michael P. Thompson, "A Competing Values Framework for Analyzing Presentational Communication in Management Contexts," *The Journal of Business Communication* 28, no. 3 (1991): 213-32; R.B. Cooper and Robert E. Quinn, "Implications of the Competing Values Framework for Management Information Systems," *Human Resource Management* 32, no. 1 (date unknown): 175-202; R.B. McGraw, "Union-Management Interface: Using the Competing Values Framework as a Diagnostic Tool to Bring Increased Involvement at the Plant Level," *Human Resource Management* 32, no. 1 (1993): 51-74; Neil B. Sendelbach, "The Competing Values Framework for Management Training and Development: A Tool for Understanding Complex Issues and Tasks," *Human Resource Management* 32, no. 1 (1993): 75-99.

38. Hart and Quinn, 543-74.

39. The chart in figure 1 is from Quinn and Rohrbaugh, "A Spatial Model," 136; Hart and Quinn, 551.

40. Ibid., 543.

41. There is a growing, rich literature on this symbolic role of leadership. See Linda Smircich and Gareth Morgan, "Leadership: The Management of Meaning," *The Journal of Applied Behavioral Science* 18, no. 3 (1982): 257-73; Louis R. Pondy, "Leadership is a Language Game," in Morgan W. McCall and Michael M. Lombardo, *Leadership: Where Else Can We Go?* (Durham, NC: Duke University, 1978), 87-99; Patricia Bradshaw, "Reframing Board-Staff Relations: Exploring the Governance Function Using a Storytelling Metaphor," *Nonprofit Management and Leadership* 12, no. 4 (2002): 471-84; and perhaps the best empirical study in this vein of research, James R. Meindl, Sanford B. Ehrlich, and Janet M Dukerich, "The Romance of Leadership," *Administrative Science Quarterly* 30 (1985): 78-102.

42. What if shifts in foreign policy are significant based on elections of the President and dominant-party changes in Congress? How do you design a military organization that has enough slack (flexibility and capacity) to deal with these policy shifts? For example, if the administration of President George W. Bush were to shift to a kind of Caspar Weinberger-Colin Powell doctrine/homeland defense policy, does this make Army Transformation "overcome by events?" I argue that the Army tends to be episodic in organization redesign and defining effectiveness rather than have continuous change mechanisms in place. Research demonstrates that the more uncertain the environment, the more diffuse innovation and change mechanisms need to be in the organization. The nature of the organization also becomes more political. In Henry Mintzberg, James A. Waters, Andrew M. Pettigrew, and Richard Butler, "Studying Deciding: An Exchange of Views between Mintzberg, Waters, Pettigrew, and Butler," *Organizational Studies* 11, no. 1 (publisher unknown, 1990), 1-16, Butler concludes that the complexity "concerning ends/means relations will tend to increase the diffuseness of decisionmaking as more specialists and interest units get involved as an organization attempts to resolve uncertainty" (13).

43. DA, *The Army Vision*, on-line at <www.army.mil/armyvision/armyvis.htm>, 12 March 2001.

44. For a complete explanation, see M.T. Hannon and J. Freeman, "Structural Inertia and Organizational Change," *American Sociological Review* 49 (1984): 149-64.

45.I bid., 151.

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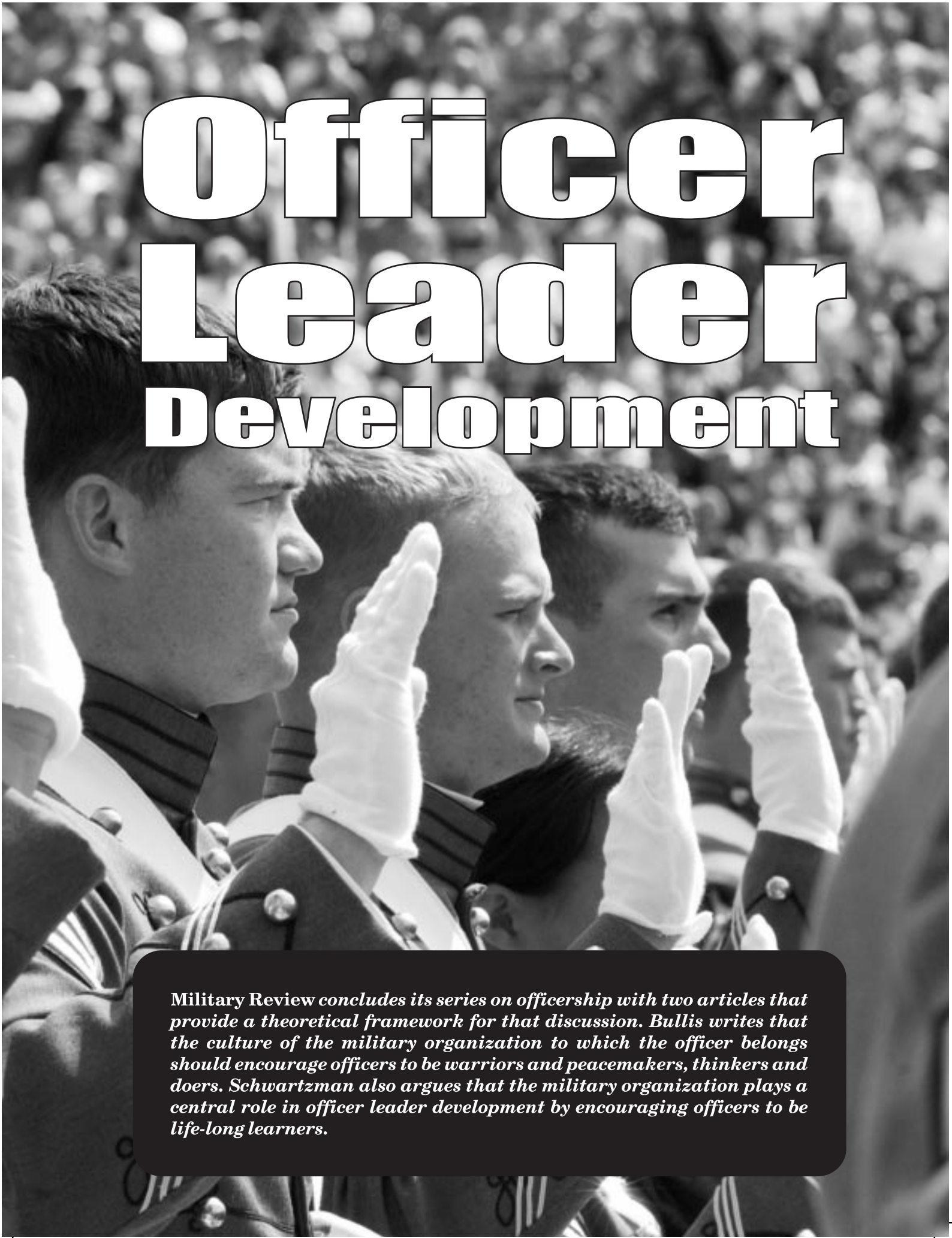
Officer Leader Development



Military Review *concludes its series on officership with two articles that provide a theoretical framework for that discussion. Bullis writes that the culture of the military organization to which the officer belongs should encourage officers to be warriors and peacemakers, thinkers and doers. Schwartzman also argues that the military organization plays a central role in officer leader development by encouraging officers to be life-long learners.*

Developing the Professional Army Officer: Implications for Organizational Leaders

Lieutenant Colonel Craig Bullis, U.S. Army, Retired

ARMY CHIEF of Staff Eric K. Shinseki stated, "We are about leadership; it is our stock in trade, and it is what makes us different. We take soldiers who enter the force and we grow them into leaders for the next generation of soldiers. We invest today in the Nation's leadership for tomorrow."[1]

Shinseki recognizes that developing leaders is the core competency of the U.S. Army. Leaders are the most significant element of combat power and are necessary to fight and win the Nation's wars. Developing and conducting effective leader development programs is a critical issue for organizational success in the new millennium. Research indicates that leadership can account for up to 45 percent of the variance in organizational performance outcomes.[2]

Some believe that leader development should be focused almost exclusively on developing of technical and tactical expertise—the ability of a leader to motivate subordinates to engage and destroy the enemy. However, leadership doctrine portrays effective leadership as being much more.[3] Army doctrine identifies necessary interpersonal and conceptual skills as well as technical and tactical competencies. Today's effective Army officer must be warrior and peacemaker, thinker and doer. Leadership doctrine requires a focus not only on short-term results, but also on long-term requirements to improve the organization. The professional commissioned officer embraces four overlapping identities: warfighter, servant to the Nation, member of a profession, and leader of character.

It is now common practice for units to incorporate unit evaluation and assessment in their training. The Army should consider the same for individual leaders. Conducting individual leader AARs during training provides both the coaching that subordinates need and the support for those concerned about the risks associated with individual and unit failure.

Perspectives on Leader Development

The concept of leader development for a professional Army officer could be approached in several ways. The Army's institutional framework, outlined in Department of the Army (DA) Pamphlet 350-58, *Leader Development for America's Army*, presents three pillars that support leader development: institutional training, operational assignments, and self development. Some scholars have recognized that the Army's commitment to this three-pillar model of leader development sets a high standard for professional development of the officer corps.[4]

A second perspective for approaching the concept of leader development is to concentrate on the individual. In other words, development should focus on how the individual should act to model behaviors desired in a professional military officer. These behaviors, discussed in Army Field Manual (FM) 22-100, *Army Leadership*, consequently propose a new set of behaviors here would be redundant.

These two models of looking at leadership—the three-pillar model and the leader as role model—are informative and important. They also provide a solid background for further discussion of officership.

By its professional nature, officership is owned

Because organizational leaders have managed these internal and external organizational challenges so well, the members of the organization have agreed that there are right ways to handle these challenges. As a result, leaders teach these "right ways" to soldiers (officer and enlisted) who join the organization. What they teach is, in essence, their culture.

by the Army's officers and is passed from generation to generation through the actions of those within the officer profession. The regimen of professional development within the Army has nearly always been formulated and passed from generation to generation by members of the profession itself—officers who recognize and act on the need to maintain a corps of professional officers.[5]

The senior officer's responsibility is to develop professional subordinate leaders in organizations. This critical senior-officer responsibility, to develop subordinate officers who understand and personally commit to the tenets of the profession, could be the most important task any officer performs.[6] The focus on the professional includes not only what the officer knows or does, but also who the officer is and how he or she embodies all the professional identities in his or her life. The leader's responsibility is to develop an organizational culture whose foundation embraces the officer's professional roles.

Personal and Professional Leader Development

Every leader has the responsibility to assess each of his or her systems to determine its relevance for the professional development of subordinate leaders. To develop subordinate leaders' behavior and personal identity as military professionals, scholars have proposed a model that includes challenge, assessment, and support.[7]

Development occurs in individuals when their established set of thoughts, ideas, and behaviors are challenged and found to be incomplete. Individuals, like groups and organizations, resist changing established processes until those processes fail to achieve desired results. These challenges provide the greatest potential for individuals to recognize shortcomings and move to greater levels of self-awareness. However, challenge itself is not enough. Challenge must be augmented with individual and unit assessments, the second part of a leader development framework. It is now common practice for units to incorporate unit evaluation and assessment into training. The Army should consider the same for individual leaders. Conducting individual leader after-action reviews (AARs) during training provides both the coaching that subordinates need and the support for those concerned about the risks associated with individual and unit failure. It is a truism that every good leader has failed at some point. Leader development requires that individuals and units fail to achieve goals and learn from the experience. A culture that develops leaders to be professional Army officers is much like a unit AAR, it improves by learning from both successes and mistakes.

The final component of the leader development framework is organizational support. To venture out of established ways of doing things, individuals must believe there is a safety net to catch them if they fail. Leaders in the developmental organization understand the risks associated with personal development and support those efforts with encouragement, counseling, and coaching. In essence, the organization's culture supports development and encourages it through the actions of the leaders.

Opportunities for professional development are enhanced when organizational leaders provide challenging tasks to subordinates, then assess and give feedback to those subordinates. At the same time, subordinate leaders experience the organizational support that encourages them to step out of their comfort zone. Leaders can use these important components as an integrating framework to provide a foundation on which a developmental organizational culture can be established.

Organizational Culture and Leader Development

Simply put, organizational culture is "the way we do things around here." Scholars describe culture as resulting from efforts to manage the organization's internal processes (how it operates to accomplish its missions) and the organization's external environment (how it responds to entities outside the organization: higher headquarters, sister units, or other el-

US Army

I Corps and Stryker Brigade Combat Team members go over battle plans at the NTC, 8 April 2003.

ements encountered on the battlefield). Because organizational leaders have managed these internal and external organizational challenges so well, the members of the organization have agreed that there are right ways to handle these challenges. As a result, leaders teach these "right ways" to soldiers (officer and enlisted) who join the organization. What they teach is, in essence, their culture.[8]

Leaders can assess a unit's culture by investigating what the unit describes as right or correct. In his 1992 book *Organizational Culture and Leadership*, Edgar Schein describes areas leaders can use to assess the underlying assumptions of their organizations' culture. One could consider four assumptions as existing on a continuum with extremes at either end. Moreover, it is important to recognize that these accepted beliefs are not mutually exclusive. In fact, it is through the interaction of each that the culture gains its power and influence in the organization.

The first assumption that helps to define an organizational culture addresses how the unit determines success. Is a unit pleased with its performance because it has met measurable standards, or do its members simply agree subjectively that the unit is good? Subordinate leader development might not be possible to measure quantitatively. The amount of numerical data the unit requires in its assessment processes is a good indicator of how units define success.

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A second assumption is related to how the organization views people—much like a Theory X or Theory Y approach.[9] In general terms, Theory X leaders believe that their subordinates are inherently bad; those subordinates must be externally motivated and closely supervised. Theory Y leaders consider their subordinates to be essentially good and internally motivated to complete tasks. Do the unit's systems imply that people are good and can be trusted, or do standard operating procedures tightly control behavior out of fear that someone might make a

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mistake? The amount of authority and responsibility that is passed down to subordinates can be an indicator of how the organization views its people.

A third assumption focuses on the organization's expectation of how people should act. Are subordinates expected to be actively involved in organizational decisions, demonstrating individual and unit initiative, or are they expected to wait for directions from superiors before they act? One area requiring organizational support might be when subordinates exercise initiative but fail to perform to an optimum level.

A final underlying assumption deals with how the organization expects leaders to act. Does the organizational culture expect leaders to retain power and direct action in an autocratic way, or are leaders expected to delegate to subordinates? As opposed to the third assumption that focuses on subordinate behavior, the focus of this assumption is on the control that leaders retain. The confidence that subordinates have in making unilateral decisions might reflect the organizational expectation of its leaders.

Each of these questions helps leaders identify the assumptions that members of organizations have about how they will do business.[10] However, it is important for senior leaders to recognize that the most effective culture for one unit might be significantly different from the most effective culture for another. What is important for leaders to remember is that the culture must support the organization's mission and objectives. If an organization's culture fails to support the unit's mission-essential task list, the leader has the responsibility to change the culture. If the culture is unsuccessful in developing future officers so that they embrace the professional virtues of warfighter, servant to society, member of a profession, and leader of character, leaders bear the responsibility to change that culture as well.

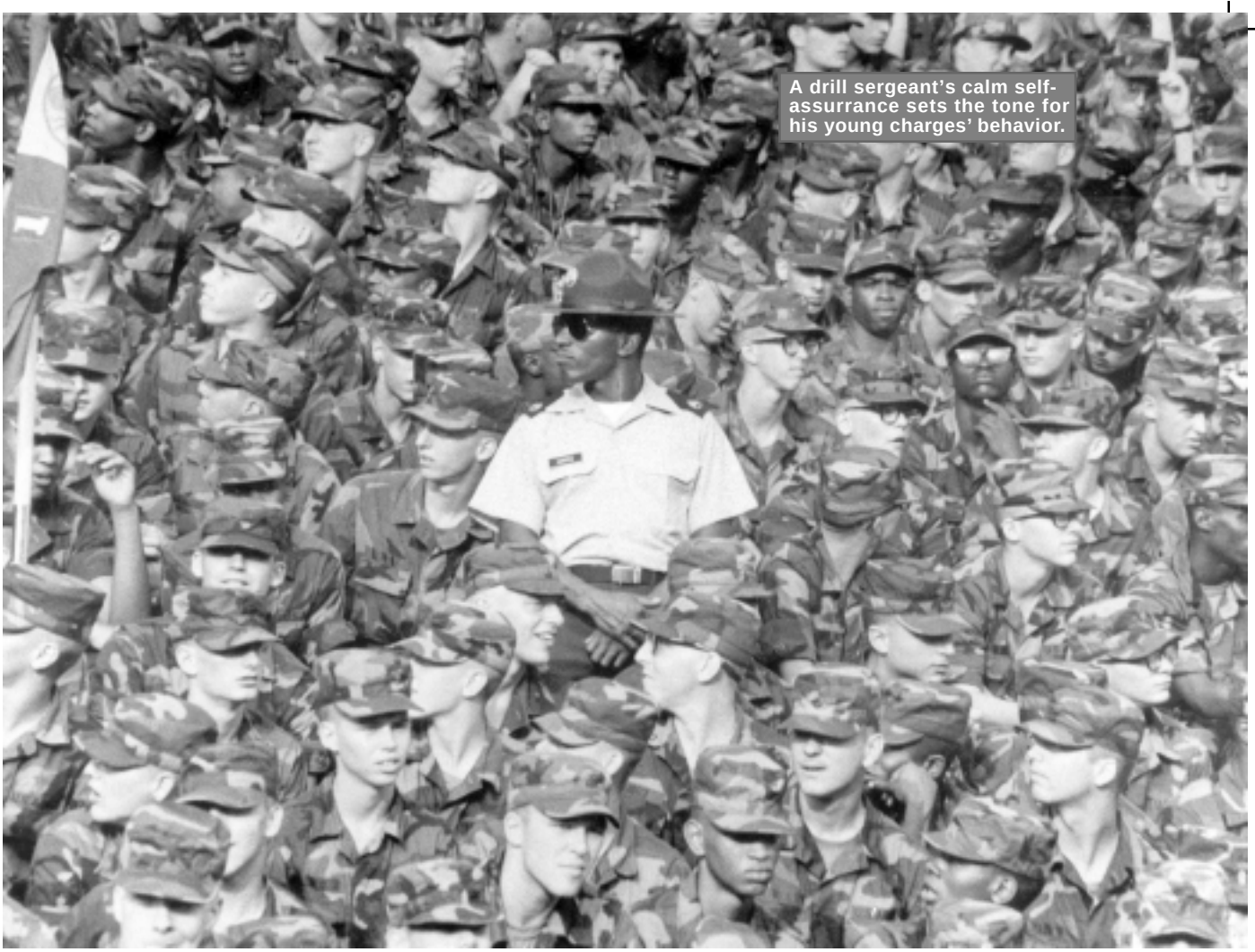
Managing Organizational Culture

As might be expected, culture is extremely powerful in influencing individual behavior. Because units have done things so well for so long, unconscious assumptions about "the right way" are solidly embedded in the unit. Modifying a belief about "the way to do things" is hard. Understanding and changing an assumption about why we do things the way we do can be much harder. Culture can be influenced through specific actions that leaders can employ.

Specific actions that a senior leader can use to influence culture include how leaders role model and coach subordinates; what leaders pay attention to, measure, and control; how leaders react to critical incidents in the unit; the criteria used for rewards; and even how new members are selected and recruited. To reinforce these direct actions, leaders might also be able to influence culture by the institutionalization of the stories, legends, and myths that unit members tell and by formal statements that organizational leaders make that capture their philosophy of how things ought to be.

Role model and coach. Officers are familiar with this set of activities because it is "leading by example." Subordinates watch what leaders do and imitate it—whether good or bad. How do you model being a warfighter? How do you demonstrate that your duty, your unit, and even the Army are more important than your career? You should begin with an objective self-assessment of your activities. Leaders should be involved in and support, both actively and passively, activities that strengthen the military profession. Moreover, leaders must coach people they work with to do the same.

Attention, measurement, control. Leaders control the behavior of subordinates by what they evaluate. The truism that "the unit always does well those things that the boss checks" applies to professional development. Paying attention to the warfighter portion is something we do well. We have tremendous opportunities through combat training centers (CTCs) and other training events to display and evaluate technical and tactical behaviors. To assess the servant of the Nation component might include tasks that are difficult to quantify. However, when a senior leader includes on his or her DA Form 67-9-1, *OER Support Form*, behaviors that reinforce each of these four components of officer pro-



A drill sergeant's calm self-assurrance sets the tone for his young charges' behavior.

fessionalism, chances are good that subordinate officers will do the same.

Reaction to critical incidents. While most subordinates consistently work hard to do the right things, soldiers of all ranks make mistakes. Some mistakes are more serious than others. Often, the leader's response to the mistake has a more lasting influence on the culture than the mistake itself. Leaders should make an effort to describe the errant behavior in terms of how it detracts from the profession. Does the behavior detract from individual or unit warfighting abilities? Does a selfish attitude reflect personal desires that are more important than service to the Nation? Do delinquent actions embarrass the profession?

In his article "The Subordinates," Mike Malone told about a leader who effectively engendered respect and commitment by his administration of punishment—linking the behavior to unit mission and goals.[11] Other leaders can do the same by using professionalism components as their basis.

Criteria for rewards. Subordinates respond to many forms of recognition: medals, certificates, and public praise. What we reward shows subordinates the activities that we value most. Appropriately, we recognize soldiers' performances after successful training exercises. We should also look for opportunities to recognize publicly other activities that support the profession. Subordinates are involved in many volunteer organizations: on-post activities, religious activities, and off-post community events that demonstrate service to the Nation as leaders of character. While this type of activity is not as easy to quantify and not as well known as training excellence, organizational leaders can positively influence a culture of professionalism by identifying and

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publicly recognizing those persons participating in important activities.

Criteria for selection and recruitment. Most Army organizations do not have the opportunity to recruit and select their own members. For those that do, however, they can use selection criteria that balance each important professionalism component. Leaders who have less control in this area, can still influence new members by establishing effective unit-sponsorship programs that teach the desired culture. Socialization processes affect two groups of subordinates—new members of the team and those who convey the culture to new members.

Stories, legends, and myths told by unit members. All organizations have revered heroes. Who those people are and why they are honored tell much about an organization's values. Soldiers have many heroes—Audie Murphy, Gary Owen, Molly Pitcher. Every branch has a patron saint—a person whose life (and often, death) epitomizes the professional nature of the branch. Teaching soldiers about these heroes reinforces the actions expected of an organization's members.

Formal statements that capture the leader's philosophy. What leaders choose to write in their leader philosophy statements is critical. Of the potentially thousands of items to write about, leaders must choose three to five that capture the essence of their approaches to leading soldiers. Commanders communicate that philosophy to every soldier in their units. Expressing that philosophy in the terms of warfighter, servant to the Nation, member of a profession, and leader of character sends a powerful message to unit members.

Development programs for future generations of Army officers should consider what is being developed (the attributes, skills, and actions expected of officers) and how it is being developed (the organizational process, or culture that facilitates that development).[12] To really develop a professional officer, organizational leaders must consider what a professional does (the content of what the Army believes is a professional soldier) and how professionals think about themselves inside the Army. Consequently, there are two different but related tasks. The first is to develop skills and behaviors consistent with professional expectations. The second is to shape leaders' thinking to see themselves as contributing members of the Army officer profession.

A powerful method for developing the behaviors and attitudes the Army officer corps needs can be gained from the management of organizational culture. Culture affects each of us, so much so that it can be hard to grasp or explain. We know it is there, however, because we can sense it. Senior organizational leaders who understand the power of organizational culture to manage developmental needs will be the most successful at developing the future generation of officers. They will be the ones who truly "grow them into leaders for the next generation of soldiers."[13] ***MR***

NOTES

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2. David V. Day and Robert G. Lord, "Executive Leadership and Organizational Performance: Suggestions for a New Theory and Methodology," *Journal of Management* (1988): 453-64.
3. U.S. Army Field Manual (FM) 22-100, *Army Leadership* (Washington, DC: U.S. Government Printing Office [GPO], June 1999).
4. James G. Hunt, *Leadership: A New Synthesis* (Thousand Oaks, CA: Sage Publications, Inc., May 1991).
5. Leonard Wong and Douglas V. Johnson II, "Serving the American People: A Historical View of the Army Profession," *The Future of the Army Profession* (New York: McGraw Hill, 2002): 59-76.
6. Noel M. Tichy and Eli Cohen, *The Leadership Engine: How Winning Companies Build Leaders at Every Level* (New York: Harper Collins, 1997).
7. Robert Kegan, *The Evolving Self: Problem and Process in Human Development* (Cambridge, MA: Harvard University Press, 1982); Robert Kegan, *In Over Our Heads: The Mental Demands of Modern Life* (Cambridge, MA: Harvard University Press, 1994).
8. Edgar Schein, *Organizational Culture and Leadership*, 2d ed. (San Francisco, CA: Jossey Bass, 1992). A more recent version of this theoretical work is presented in a more user-friendly format, *Surviving Organizational Culture* (2002).
9. Douglas M. McGregor, *The Human Side of Enterprise* (New York: McGraw-Hill, 1960).
10. Some might argue that what I describe is better termed "organizational *climate*." The theoretical foundation of this paper presents the leader behaviors as methods to change organizational culture. I will do likewise, recognizing that these same behaviors can be used to modify the climate, if the leader wishes. I intentionally use culture because it generally has a more enduring quality to it.
11. Dandridge "Mike" Malone, "The Subordinates," *Army* (December 1985): 16-25.
12. George B. Forsythe, Scott Snook, Philip Lewis, and Paul Bartone, "Making Sense of Officership: Developing a Professional Identity for 21st-Century Officers," *The Future of the Army Profession* (New York: McGraw Hill, 2002): 357-78.
13. Shinseki.

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Transforming Leader Development Through Lifelong Learning

Lieutenant Colonel Robert D. Schwartzman, U.S. Army, Retired

THE ARMY IS in the process of transforming itself. Through the Army Training and Leader Development Panel (ATLDP) assessment process, it is exploring the use of three meta-competencies: self-awareness, adaptability, and lifelong learning.[1] A meta-competency is defined as "a competency that is so powerful that it affects the person's ability to acquire other competencies."[2] The three meta-competencies are symbiotic and create a developmental condition that propels the learner at a faster and more complex rate than do traditional pedagogical instruction or experiential learning.

Learning is the critical activity leading to progress or growth. The challenge for organizations is to instill in individuals a desire to make learning a lifelong pursuit. Lifelong learning is defined as an individual's choice to pursue knowledge to progress beyond a known state of development or competence. Lifelong learning is a matter of psychological conditioning, not mechanical function. Without an individual's commitment to grow intellectually, the organization will fall short of its potential.

Missing from previous methods to encourage lifelong learning is the systematic use of feedback, the single most important element in the learning process. Feedback increases self-awareness and allows for dysfunctional behaviors to become unfrozen so that new, functional ones can be developed. Feedback is the basis for increasing self-awareness and empowering the individual with choice. Without feedback, learning is limited. The human condition is such that people are blind to their own behaviors and nonverbal communication. Feedback from others in the organization provides awareness of how a person is perceived by others.

The Army has always had soldiers who were motivated to learn and excel at their specialty or profession. The 1987 Sullivan study incorporated the value of this self-developmental approach.[3] It broadened the application of self-development to the Army at large by incorporating self-development as one of the three pillars of development. In the previous leader development model, the three-pillar format was referred to as the Parthenon because its appearance suggested a Greek temple.

The prevailing efforts in the Army today are to link lifelong learning by employing the mechanics of data transference. Army Transformation and perceived future requirements have demonstrated a need to develop in leaders a personal responsibility for learning. Indeed, the ATLDP series of studies found lifelong learning a critical requirement for future development.

Tempo-Centric Linkage and Human Development

The Army's leader development process is sequential and progressive. The key assumption is that learning is the result of experiences that build on one another. Learning or comprehending increasingly complex information depends on a sequence of prerequisite learning events. This suggests a learning environment that moves from the known to the more known with the passage of time as leaders experience duties, schooling, and self-education.[4] Certainty, however, decreases with education. The more a person learns, the more he or she realizes they do not know, and the more he or she seeks to learn. This developmental process is counter-intuitive to the operational and fixed resource models the Army uses to develop doctrine and force structure.

The Army traditionally tries to anticipate requirements derived from an anticipated operational situation. The Army builds a force structure or resources that allow it to accomplish its anticipated mission. This is achieved by determining a reasonable estimate of time required to gather mission resources and to meet situational requirements.

US Army

A U.S. soldier tests interoperability during NATO exercise Combined Endeavor, 9 May 2003.

Technological advances are bringing information to any portal, anywhere, instantaneously. Never before has information on any topic been more accessible to more people than it is today, and the pace and amount of available information is growing exponentially. This explosion of material has created an environment highly conducive to individual learning.

All too often, this process includes predicting a predetermined set of leadership skills, competencies, and characteristics of a future leader for a future force. This is a futile exercise for two reasons. It is impossible to predict the future. We can define it in terms of what we would like it to be, but we cannot be certain what shape it will take. We can estimate the time required for producing equipment, but fielding might take longer. We can identify skills leaders should possess, but those skills might be obsolete by the time the future arrives. The best human developmental tools, knowledge, and processes are available only in the present for present-day application. To change to accommodate a prediction is guesswork.

The best method for providing quality leader development is to continue research and development of practices that encourage leaders to perform at their highest potential. A leader development process that inculcates learning as the predominant foundational factor and stresses the right types of competencies for the profession will develop leaders with a self-renewing resource: lifelong learning.

Broad-Based Competencies

The leader development process begins with the individual. Individual advancement depends on the application of the best currently available methods present. Such methods are the basis for developing future leaders because they serve as the foundation for the next level of generational growth in understanding human development. Two of the meta-competencies, self-awareness and adaptability, are universal and enduring in that they transcend fixed focal points of activity along a time continuum.

Competencies that focus leader development resources and energy on developing leaders' self-awareness and adaptability will break the current paradigm of experiential development and provide greater clarity for a developmental direction. Competencies transcend leadership levels and allow for leader development at specified levels while facilitating the Army's progressive and sequential development model. The skill sets associated with a position account for the differences of leadership levels. As an example, an armor platoon leader requires a different skill set and technical competence to lead his platoon from those an armor brigade commander needs to lead his brigade. A common technical competence, however, provides continuity from grade to grade and from leadership level to leadership level in the developmental process. This allows the Objective Force leader to focus on overall development throughout a career rather than on a short-term perspective of job-to-job, experience-to-experience.

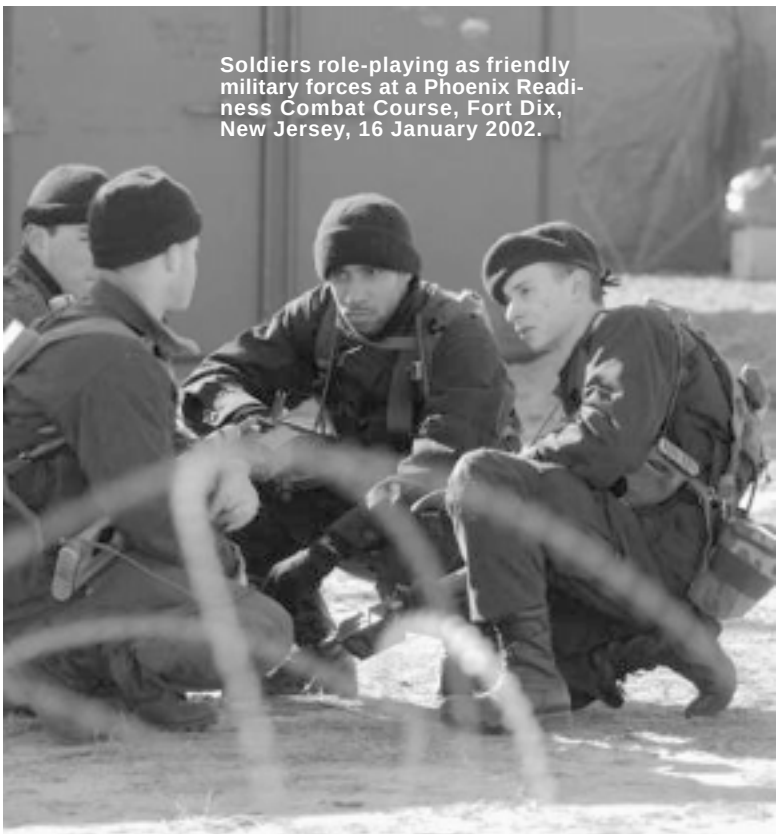
Lifelong learning is an individual characteristic comprised of a complex amalgam of skills and abilities, the first of which is initiative. It is the individual pursuit of knowledge that leads to comprehension and task accomplishment, which allows for skill development and the creation of increased competence. Initiative becomes the quest for answers to problems not found in a field manual or school assignment. Initiative provides the motivation to accom-

plish a mission presented with unknown and uncertain challenges and difficulties. Initiative kindles the desire to develop new, missing, or undeveloped competence in new tasks. Initiative energizes the pursuit of self-awareness to hone the skills of critical thinking and decisionmaking.

Lifelong learning presents new challenges to educators and trainers because it redefines the Army's traditional belief about the role of self-development as one of the three developmental domains. The basis for self-development is the personal desire and individual choice to increase performance in some desired pursuit. Leaders face increased task complexity and uncertainty about how to perform new, complex tasks. Self-awareness brings the realization of absent or underdeveloped competencies. Former learning methods of passive learning used at institutions or of experiential learning from operational experience gives way to a new learning method of proactive learning. Although influenced by many organizational and collective factors, it is individual choice that moves the organization forward. The burden is now on the individual to identify and define needed competencies, assess his or her competence, and decide what he or she must learn to achieve success. In this way, the individual contributes optimal individual performance to the collective effort.

Finally, lifelong learning is an individual choice. The literature suggests that organizations that learn faster than can their competitors will perform best.[5] In the U.S. Army, an organization charged to protect the Nation, choosing to learn faster than can the enemy is the only choice. The leadership challenge for today's Army is to motivate leaders to internalize the value of lifelong learning so that collectively the organization can realize its potential. Encouraging lifelong learning is not accomplished by encumbering human development with operational and resource decisions. Leader development must be built into new force design and doctrine and not tacked on as an afterthought. Only then can the leader development process provide competent leaders who possess the necessary competencies to perform successfully in any situation.

US Army



Soldiers role-playing as friendly military forces at a Phoenix Readiness Combat Course, Fort Dix, New Jersey, 16 January 2002.

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Self-Development in Lifelong Learning

First and foremost, the responsibility for development belongs to the individual. Self-development is a positive action that involves the pursuit of knowledge to establish depth of comprehension and understanding about the logic of a particular topic. As one of the three developmental domains, the function of self-development is to provide a means for acquiring knowledge and comprehension that would not otherwise be acquired at service schools or from operational experience. In this regard, self-development has been identified as the means to fill knowledge gaps.[6] Filling gaps, however, is a small part of the self-development process. The act of filling knowledge gaps is reactive and provides short-term solutions to leader development, whereas the pursuit of deep comprehension, knowledge, and

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understanding is proactive and provides long-term improvement to the Army.

Technological advances are bringing information to any portal, anywhere, instantaneously. Never before has information on any topic been more accessible to more people than it is today, and the pace and amount of available information is growing exponentially. This explosion of material has created an environment highly conducive to individual learning. The availability of information at anytime, anywhere, allows lifelong learners to immerse themselves deeply into any topic at their own pace using any learning method.

Such a plethora of information can become unmanageable and overwhelming. A structured and disciplined self-development plan that includes a mentor or coach is essential. Time also becomes a critical resource. Time dedicated to self-development competes with other primary organizational responsibilities; nonetheless, self-development should occur regardless of duty assignment or status.

The three developmental domains are symbiotic. Viewed as a cycle of events in the Army developmental process, the leader enters institutional training having already experienced some training and exposure to organization accomplishment. Here, knowledge and comprehension are gained in varying degrees and brought to the operational assignment. Decisions made, conclusions drawn, and thoughts reasoned are influenced by operational experiences and by knowledge acquired from the institution. Learning from operational experiences contributes to the thoughtful development of reasoning and critical thinking skills, thus furthering the development of critical operational skills as the cycle becomes self-perpetuating. Self-development permeates the entire process and occurs wherever and whenever the individual pursues learning.

The Role of Feedback

Feedback is the single most essential requirement for learning. Yet in the area of self-development, it is the aspect least emphasized by the Army's educational and training processes. Feedback is also neglected in the other services. Each service attaches a different emphasis to this area, although in general, the sister services do not emphasize mentorship and self-development as much as they do institutional schools and operational assignments as sources of learning.[7]

ATLDP officer and noncommissioned officer (NCO) studies highlight the lack of attention feedback has received. More important, the studies recommended changes in counseling, leader development standards, and career map pamphlets such as DA Pamphlet 600-3, *Commissioned Officer Development and Career Managment,* to address the importance of feedback to the Army's developmental process.[8]

Feedback increases awareness of how others perceive one's performance against a standard. It allows the individual leader following a self-development plan to evaluate whether or not he or she is achieving desired outcomes as a result of behavioral and action choices. The awareness gained from feedback sheds light on the reasons the leader is not achieving desired outcomes. Emphasis is on the reasons for not achieving outcomes, not on the outcome itself. Feedback allows the individual to make choices otherwise unavailable without feedback. The choice is to influence events for more favorable outcomes by altering or unfreezing rote actions and behaviors or to make no changes and knowingly continue to get the same undesired outcomes. This methodology has direct application to the individual pursuit of knowledge and understanding.

The value of mentoring, coaching, and counseling cannot be overemphasized as essential parts of the feedback process. Since learning is a highly individual act, individual counseling and mentoring are required to optimize the learning potential of any given experience. The feedback provided from this type of individualized focus creates the optimal conditions for team effort in the organization setting. The individual is made aware of how his personal actions

affect the organization. The intent is to improve and change the individual and, thereby, enhance the overall performance of the team.

Lifelong Learning and the Army

What organizational environment in the Army today is not confronted with the challenges of reduced resources? Every ATLDP study cited the current operational tempo as placing significant stress on the Army as an organization and on the soldiers as individuals. Environments such as this present leaders at all levels with innumerable problems and obstacles to achieving organizational goals and accomplishing organizational missions. Answers to these challenges are not easily found and when they are, more often than not, they are highly complex and difficult to implement. The greatest percentage of organizational solutions, however, resides in the corporate body of any organization.

The Army's leadership doctrine defines leadership as an influencing process. It suggests that any member of the organization, regardless of rank or position, has the ability to influence the decisionmaking process, thus leading the organization for that particular point in time. One way to harness this energy and potential is through the creation of an organizational environment that encourages the value and eventual internalization of lifelong learning. Lifelong learning requires organizational leaders who are self-aware and committed to the pursuit of depth of knowledge in order to optimize organizational performance.

The Army's leadership has begun this process by taking the actions necessary to implement ATLDP recommendations. The expansion of broad competencies that transcend fixed points in time, 360-degree assessments to provide the feedback essential to quality self-development plans, and renewed emphasis on leader development counseling are evidence of the Army's commitment to improve leader development. The challenge ahead is a big one and often daunting. Instilling commitment to lifelong learning is an attempt to change a conservative culture. The alternative, however, is slower and less complete learning. Given future operational environments, that is unacceptable. ***MR***

An armor platoon leader requires a different skill set and technical competence to lead his platoon from those an armor brigade commander needs to lead his brigade. A common technical competence, however, provides continuity from grade to grade and from leadership level to leadership level in the developmental process. This allows the Objective Force leader to focus on overall development throughout a career rather than on a short-term perspective of . . . experience-to-experience.

NOTES

1. The Army Training and Leader Development Panel (ATLDP) Report is an assessment of training and leader development in the Army. Its primary purpose is to inform the people part of the Army Transformation process.

2. Jon P. Briscoe and Douglas T. Hall, "Grooming and Picking Leaders Using Competency Frameworks: Do They work? An Alternative Approach and New Guidelines for Practice," *Organizational Dynamics* (Autumn 1999): 9.

3. The Leader Development Study was commissioned to "clarify the nature of leader development and its central importance to our well-being as a profession." (24 August 1987).

4. Tim Challans, Ph.D. Philosophy, Johns Hopkins University, suggests that the result is "less known" in that increased educational opportunities increase self-awareness to a point that highlights how much there is yet to learn, suggesting how far we have to go. This notion supports the concept of lifelong learning as a commitment to a psychological state essential to the active pursuit necessary to fill an extensive void.

5. Peter M. Senge, *The Fifth Discipline: The Art and Practice of the Learning Organization* (New York: Currency and Doubleday, 1990).

6. The ATLDP Report: Officer Study Report to the Army (25 May 2001), OS-18; ATLDP: NCO (2 April 2002),31.

7. Mark A. McGuire, "Senior Officers and Strategic Leader Development," *Joint Forces Quarterly* (Autumn/Winter 2001-02): 93.

8. DA Pamphlet 600-3, *Commissioned Officer Development and Career Management.* NCOs use DA Pam 600-25, *U.S. Army Noncommissioned Officer Professional Development Guide.* Warrant Officers use DA Pam 600-11, *Warrant Officer Professional Development.*

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Leaders for America's Army

The Active Army, U.S. Army Reserve, and the U.S. Army National Guard share a high level of military competence. These remarkable levels of citizen-soldier competence, created by training to common task, condition, and standard, have never before occurred in U.S. military history. Author Frederic J. Brown argues that this competence mandates a searching review of leader development policies and practices.

Leader development is arguably the most important single program of any army.

GROUND COMBAT, the most complex of military endeavors, is characterized by infinitely variable terrain, human interactions under great stress, and complex missions. Ground combat often combines military, political, economic, social, and religious elements, always in an uncertain environment. The quality of America's Army's leaders, from corporal to general, determines the outcome of ground combat. As combat evolves to incorporate highly variable land, sea, and air power mosaics, combined increasingly with special operations, leaders must assume even more dominant roles.[1]

Genuinely new leadership requirements have arisen since the events of 11 September 2001. President George W. Bush put the mark on the wall: "All nations that decide for aggression and terror will pay a price. We will not leave the safety of America and the peace of the planet at the mercy of a few mad terrorists and tyrants. We will lift this dark threat from our country and from the world."[2] National Security Strategy now identifies preemption, recovery of failed states, and Homeland Security as major military missions. Each new mission, alone and in combination, places new joint, interagency, intergovernmental, and multinational (JIIM) responsibilities squarely on the plates of Army leaders at every grade. Leaders must discharge their responsibilities in support of operations in Afghanistan and Iraq and within the United States in support of the Department of Homeland Security and of the commander of the U.S. Northern Command.

The emerging requirements that the Nation is placing on leaders of all grades are formidable. Leaders must have the ability to understand, then achieve, harmony among the imperatives of doctrine, training, leader, organization, materiel, soldier (DTLOMS). Company commanders must be able to see and act in combat across the battlefield operating systems (BOS) from the perspective of the battalion or perhaps even the brigade commander; squad leaders must understand their first sergeants' cross-BOS perspectives.[3] Increasingly, the charac-

ter of operations requires that—and more. Recent events have required the Armed Forces to transition rapidly from combat in preemption to stability and support operations (SASO) in failed states or to emergency relief to civilian authority in Homeland Security. These missions add to an already broad spectrum of commitment.

Understanding the skillful application of landpower imperatives across BOS is necessary but increasingly insufficient. A leader must also understand the mosaic of land, sea, air, and Special Forces at current and higher echelons. Combinations of land, sea, air, and Special Forces are available to leaders operating together in variable modular organizations composed to dominate immediate combat requirements. This just-in-time leader team building includes profound new leader development challenges.

Clearly demands on leaders are changing. The excellent work that training and leader development panels conducted in the past several years has aged. The Army needs to open a dialogue regarding current and emerging wellsprings of leader requirements and their likely effect on how America's Army develops its leaders.[4]

Discussion Points

Topics that Army leaders should discuss include the following:

- All soldiers corporal and above are leaders. They should be as diverse as is the U.S. citizenry and be prepared to lead others under stress whatever their other service competencies might be. As the Army accesses national samples of youth, it will find that it will change to meet the new generation's expectations, which in turn will bring about a cultural change in the Army. Despite this, as the nature of likely commitment broadens and traditional Army warrior values come under stress, the Army might require an increased "soldierization" of youth during their initial entry training.
- Digitization of the battlefield vastly increases information flow vertically (by function) and horizontally (by echelon). Leaders do not act alone. They perform routinely as members of larger teams. Preparing leader-teams is as important as preparing individual leaders.[5]
- America's Army is uniformly competent. Across selected functions and echelons, at least at the battalion echelon, the Active Army, the Army National Guard (ARNG), and the Army Reserve (USAR) share competence. These remarkable levels of citizen-soldier competence, created by training to common task, condition, and standard, have never before occurred in U.S. military history. This competence, combined with high personnel tempo across both Active and Reserve Components since the end of the Cold War, mandates a searching review of leader development policies and practices.
- The Army should phase in changes to the unit personnel sustainment system from individual replacement to unit replacement where feasible. Unit manning is not new. Special Forces and other high-priority units such as the 82d Airborne and the border cavalry regiments during the Cold War had repetitive assignment policies. Officers and noncommissioned officers (NCOs) came to know knew each other well from previous assignments and became highly cohesive units despite individual replacement policies. Nevertheless, implementing a hybrid unit replacement system will influence leader preparation.

As soldier-leaders participate more frequently in complex interagency and multinational operations, they must possess firm grounding in the basic values of service. Strong shared values, comradeship, and doctrine, tactics, techniques, and procedures will be central to successful small-unit actions.

- The Army is experiencing accelerated migration of leader tasks from higher to lower echelon leaders. Cascading excellence requires greater leader competence at much lower leader echelons than previously needed.[6]
- The Army must retain the requirements for leader competence despite the blurring of traditional concepts of service. A career pattern in which leaders may migrate from Active Army, to Reserve Component (RC), to contract civilian, to retiree appears increasingly likely. Traditional leader development prepares leaders for vertical advancement and anticipated advancement to positions of higher responsibility. Preparation should encompass horizontal task competency that cuts across traditional domains of service.
- As America's Army extends itself across the spectrum of operations, higher percentages of available forces will be committed. Some relief might come from contracting out jobs. Doing so would free scarce combat-ready soldiers to serve in combat. However, there will be an increased reliance on conscription when multiplying requirements and casualties empty the trained manpower reservoir.

Each of these wellsprings of leader development presages change to current leader development

policies and programs. When these are combined, a model significantly different from current models emerges. As Lieutenant General John Riggs said when speaking about the Objective Force, "The Objective Force is composed of *modular, scalable, flexible organizations* for prompt and sustained land operations."[7] This Objective Force would be composed of highly competent leaders from every source of competence, from active, reserve, or retired military, or civilians. They would come together "just in time" to become high-performing teams to lead modular, scalar (graduated or stepped) units, which might themselves morph from Army to joint to combined to interagency. This situation is not much of a change for traditional rifle companies, tank companies, or artillery batteries, which are the enduring foundation of victory in close combat. But for all others, significant change in leader preparation and expectations of performance seems imminent.

Why train RC leaders in combat or materiel-development processes when the Active Army routinely provides Title 10 support? The ARNG now has important competing requirements to support Homeland Security. Many ARNG peacetime support tasks are state-unique and, thus, not learned in the Active Army's institutional training system. Time is spent learning, "just like" active leaders learn.

Leaders All

Riggs also said, "In a transformed Army culture, every soldier is trained and equipped to be a decisionmaker."[8] The Army approaches that level of preparation today. The NCO Education System (NCOES) addresses leader responsibilities in the primary NCO course for corporals. The course is essential for providing young soldiers with the skills, knowledge, and attributes (SKAs) necessary to step out from among their peers to assume leadership responsibilities. Senior NCOS, who have themselves been prepared to regard the development of subordinate leaders as one of their most important responsibilities, support young soldiers at every step of their training.

Ideally, new corporals will be able to attend a combat training center (CTC), where they will receive the world's finest experiential leader preparation. A CTC presents intense job-related challenges, with role-model NCOs (as observer/controllers) mentoring, coaching, and training the young leader's actions. This will, in turn, prepare NCOs to become better mentors. The combination of competent, confident, motivated young soldiers who want to lead plus training received at NCOES plus CTC learning produces superb young leaders in combat, combat support (CS), and combat service support (CSS) skills.

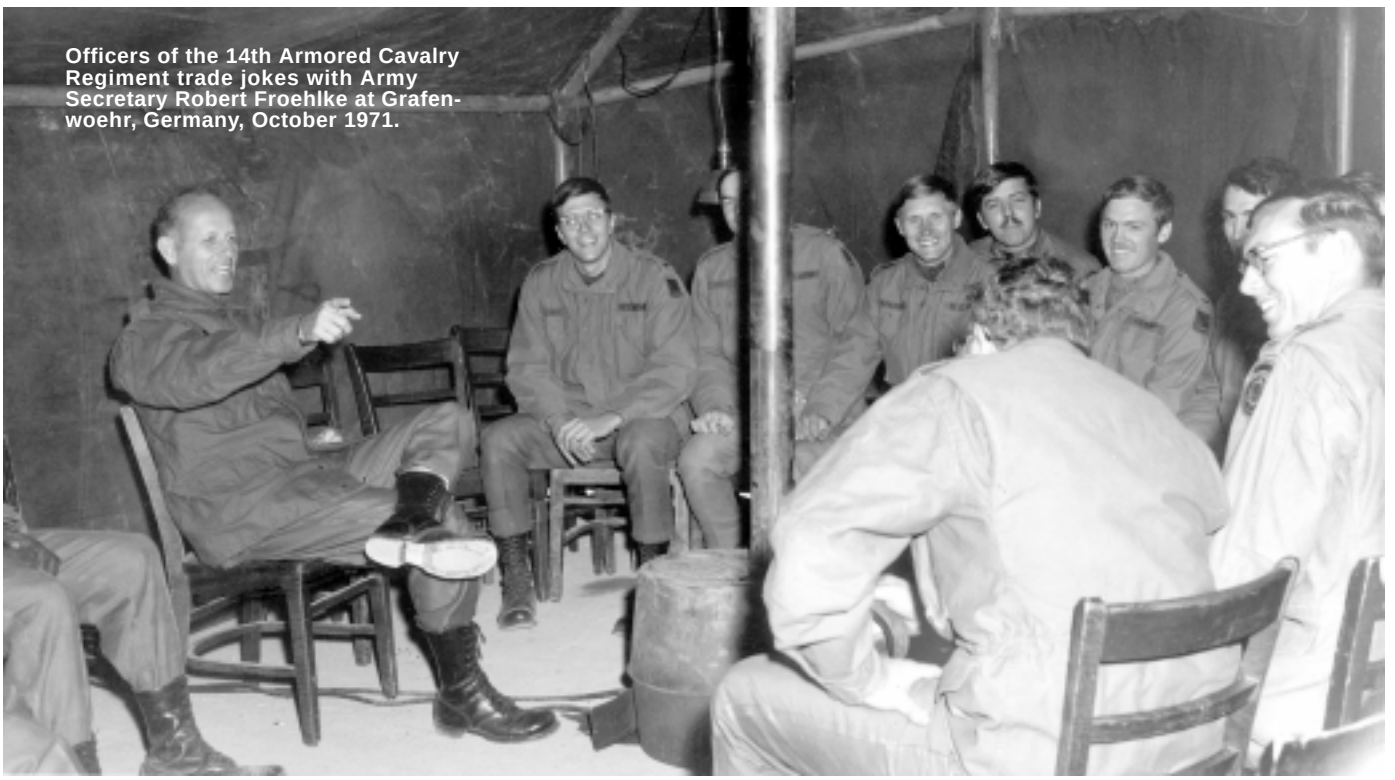
But there is more, which comes with an unintended but welcome benefit. The after action review (AAR) process at the CTC exposes soldiers to the same experiential learning opportunities provided to squad leaders, platoon sergeants, platoon leaders, and often, the fire support team, medic, and logistics operator. Frequently, the company commander and first sergeant will comment on why what occurred when. All participate in multiechelon AARs. Young leaders, attentive because of personal commitment to the mission, learn the tasks of "higher" like a sponge. In fact, they are encouraged to comment specifically on the performance of their seniors, peers, and subordinates. Doing so provides a profound learning and teaching experience. If they are to perform SASO missions, as in the Balkans, young leaders will supplement CTC learning by becoming leaders, practically influencing events at the tactical, operational, and strategic levels in a world of CNN and, now, embedded reporters. This is extremely effective leader preparation, which literally trains one or more echelons up.

Through a combination of programs, the Army has a leader train-up capability unequaled in modern times. By the time corporals have served 5 to 10 years, with multiple learning experiences throughout the world, they will be absolutely superb, not only in competence but also in the ability to mentor subordinates and to influence others.

These programs apply to the Reserve Component as much as to the Active Component (AC). Young leaders with several years of growth under their belts will soon approach competency levels formerly associated with Special Forces at comparable grades. Leader proficiency itself has become a fine example of cascading excellence.

Young leaders are strategic assets, particularly when their competence and confidence are applied in interagency, intergovernmental, and multinational operations. As evidenced in the Balkans and in Iraq in preemptive combat operations, young leaders' SKAs are of dominant importance in rebuilding failed states.

Leader task proficiency does not appear to be a problem. I am less certain about ensuring sufficient



Officers of the 14th Armored Cavalry Regiment trade jokes with Army Secretary Robert Froehlke at Grafenwoehr, Germany, October 1971.

US Army

Unit manning is not new. Special Forces and other high-priority units such as the 82d Airborne and the border cavalry regiments during the Cold War had repetitive assignment policies. Officers and NCOs came to know each other well from previous assignments and became highly cohesive units despite individual replacement policies.

soldierization, the inculcation of warrior values on U.S. soldiers. As soldier-leaders participate more frequently in complex interagency and multinational operations, they must possess firm grounding in the basic values of service. Strong shared values, comradeship, and doctrine, tactics, techniques, and procedures (DTTP) will be central to successful small-unit actions.

Genuine inculcation of values will take time. During the past decade, leader training in basic combat training has been preserved; however, future leader development might require a significant increase (a doubling?) of the current time allotted for basic combat training.

Leader Teams

Digitization has created an explosion of the quantity and quality of information on the battlefield. One major effect of digitization has been to fuse leaders at all grades with their commanders, their subordinates, and their peers. No one wants to fight alone. Teams thrive everywhere, communicating continuously in person or by various electronic means.

The squad or the fighting vehicle crew is a vital team. Teammates do not want to let their buddies down as they accomplish their missions. Every tank leader has a wingman, just as does a fighter pilot. The company commander is a member of a team composed of the battalion commander (up) and subordinate platoon leaders (down). The company commander is also a member of the team of all other company commanders in the battalion, cross-talking during the fight. So each company commander is a member of several teams simultaneously—vertically and horizontally. Likewise, the battalion operations officer is a member of a team of staff officers supporting the chain of command, and he is a member of a vertical team consisting of the operations officers at brigade and at division, all of whom must be prepared.

Teams create a whole that is much greater than the sum of its parts. There can be no reduction of the individual authority and responsibility of the commander at any echelon, but teammates can provide solid counsel, shared intelligence, and information. If senior; that is, in the chain-of-command team, the

senior team member provides mission and intent and advice and counsel while leaving as much initiative as possible to subordinates, just as subordinates are expected to provide the same to their subordinate leaders. If the members are on a horizontal staff or crew team, they are expected to support each other, which will benefit both teams.

Shared values, intensive bonding experiences, and DTTPs, reinforced by emerging communities of practice, might compensate where cohesion through unit replacement is not practical. Shared vision, DTTPs, and the lore of the arm or service seem likely to permit rapid cohesion-building once the team for combat is formed. Combined with pragmatic hybrid replacement policies, this might be the best answer at this stage in Transformation.

Teams must be re-formed, nurtured, and reinforced when losses occur. To be high-performing, all teams, vertical or horizontal, must practice teamwork, team decisionmaking, and team leadership. The last consists of shared vision, trust, competence, and confidence.[9] As the literature of team building grows, for both military and business applications, other requirements are advocated. Still, solid research and development (R&D) is yet to be done, particularly for hierarchical organizations performing under great stress. Clearly, preparing high-performing leader-teams is an increasingly important requirement.

The leader-preparation challenge is magnified when teams become unstable because of leader losses in combat or if task organizations change frequently. Emerging doctrine envisions frequent reconfiguration of modular units. The vision for the Objective Force is clear: "Teams form, change, relocate, expand, and disperse without effect to battle command."[10]

Recomposing leader-teams should be simple and routine, but each reconfiguration brings new leader combinations that must gel into highly proficient teams. When leaders from other services, agencies, or nations (each developed as a leader in another culture) are added, leader-team preparation becomes a complex challenge, which each chain of command must address.

Total Force Competency

Current levels of competency of AC and RC forces are remarkable and increasingly comparable. This has existed for several years in CS and CSS units as all soldiers train to common task, condition, and standard and as RC units are activated more frequently for longer periods. Parity now approaches for combat units, particularly those in SASO missions. ARNG units understand the dynamics of political, economic, and social power because they live this in their daily lives. Repetitive call-ups have developed them into fully competent citizen-soldiers, at least to field-grade officers and NCOs.

The Army can develop and sustain sufficient military competence to make RC leaders interchangeable with AC leaders. This can occur at least through field officer grades and, probably, could include general officer or Senior Executive Service personnel. This would be especially applicable where the spectrum of service might be more political than military, such as supporting the local governor or subordinate mayor in Homeland Security or supporting SASO where the armed threat is low.[11]

But, which areas should be included in shared competence and why? The opportunity cost (time) for preparation and the subsequent active service for citizen soldiers is high. Time requirements to gain proficiency in Title 10 tasks in institutional learning can be significant.[12] Why train RC leaders in combat or materiel-development processes when the Active Army routinely provides Title 10 support? The ARNG now has important competing requirements to support Homeland Security. Many ARNG peacetime support tasks are state-unique and, thus, not learned in the Active Army's institutional training system. Time is spent learning, "just like" active leaders learn.

The issue is the opportunity costs of developing leader competence for the Reserve Component. Time is limited, yet it is the most valuable resource in all units, particularly in the reserves.[13] There is nothing that cannot be done well if preparation time is directed at one area of AC readiness, such as administration, leader classes, or unit training. Citizen-soldiers aspire to being "just like" their counterparts in the Active Army. "Just like" is a comforting goal that conceals the tough issues surrounding the allocation of focus and the time it takes to develop competence comparable with the Active Army. The ARNG and USAR have proven this can be done, which is a notable achievement that proves that the theories of Army futurist Emory Upton are no longer relevant.[14]

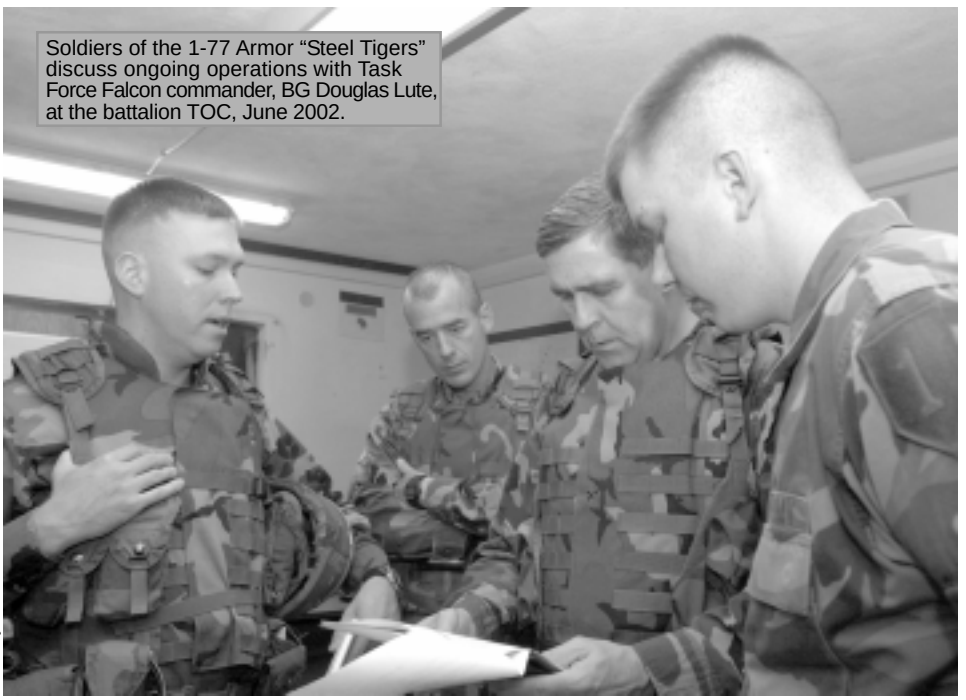
But what, in general, does unit retention and readiness cost? The Nation wants the Army to be an army of highly competent, genuine citizen-soldiers. During the Cold War, "just like" produced compe-

tent warfighting reserve-force leaders. How now should the Army direct this clear, time-costly, total force leader competence? Each component faces hard questions.

The ARNG. How much unit-leader preparation time should be directed at Homeland Security? How much focus on unit warfighting, SASO, or support to the State should be directed at homeland defense?

The USAR. How much focus should be directed toward traditional units to fill out a typical corps in contrast to developing high-tech leaders, teams, and units that can serve as the organizational nucleus for detachments or units created from the national talent pool as the need arises? In many land-power competency domains, the USAR provides national expertise.[15] Is it appropriate to expand the USAR as a talent pool of defense expertise?

Being "just like" all-purpose, active units can become a cop-out for making the hard decisions about what expertise should lie with America's citizen-soldiers. National leaders must really think through the manifest strengths of citizen-soldier leaders and how to magnify those strengths through leader preparation focused to address post-Cold War, post-9/11 challenges.



Soldiers of the 1-77 Armor "Steel Tigers" discuss ongoing operations with Task Force Falcon commander, BG Douglas Lute, at the battalion TOC, June 2002.

US Army

The company commander is a member of a team composed of the battalion commander (up) and subordinate platoon leaders (down). The company commander is also a member of the team of all other company commanders in the battalion, cross-talking during the fight. . . . Likewise, the battalion operations officer is a member of a team of staff officers supporting the chain of command, and he is a member of a vertical team consisting of the operations officers at brigade and at division, all of whom must be prepared.

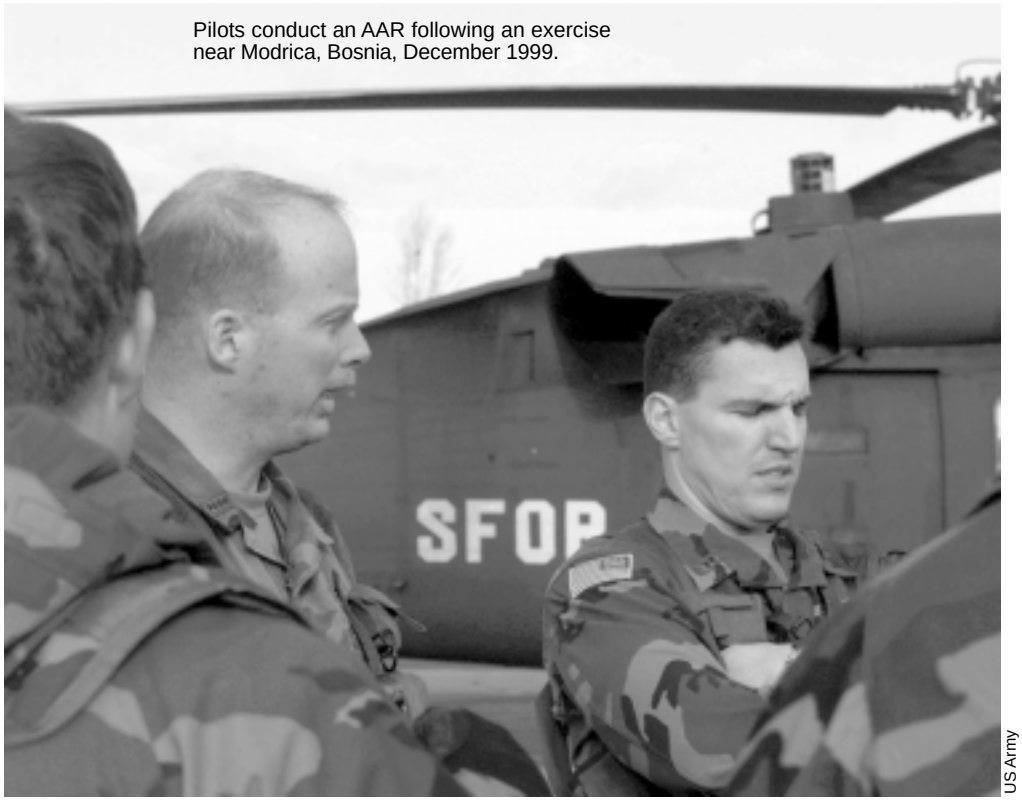
Hybrid Replacement System

The Army's individual personnel-replacement policies have been controversial for decades. Individual replacement interrupts the development of unit cohesion. Presumably, unit replacement will improve stability and, therefore, facilitate the development of high-performing units. Major efforts are underway to introduce unit replacement where feasible. However, much individual replacement is mandated because recruiting inducements are individually tailored or because of difficulties in sustaining unit rotations in certain specialized units. Obviously, some hybrid system involving individual and unit replacement will evolve. This is an emotional issue, which is somewhat ironic given that Army requirements and capabilities are changing dramatically even as arguments flow.

Little evidence exists that units cannot be filled, trained, and made into cohesive leader-teams before they deploy. In fact, this occurred prior to deployments to the Balkans, Afghanistan, and Iraq. Mission rehearsal exercises (MREs) became a staple of unit team building. Where units deploy within hours, a combination of repetitive leader assignments, overfill, and intensive continuous training provides stability.

Rapid team building through experiential learning has advanced greatly during the past decade. Such intensified team building has become the staple of successful units preparing for CTC rotations and is, in fact, taught as part of the overarching CTC experience. This team building experience is doubly useful because units learn how to handle the personnel instability of combat.

However unit leaders might have been trained and prepared during peacetime, JIIM requirements apply once the unit deploys. Increasingly, new joint,



Pilots conduct an AAR following an exercise near Modrica, Bosnia, December 1999.

US Army

MREs are increasingly necessary, not just for Army units, but also for joint, combined, interagency, and intergovernmental teams. Solid, practical means exist to increase unit cohesion before combat, no matter what the personnel-replacement system might be. A clear requirement exists for shared experiential learning across various JIIM cultures that focus on critical leader positions—corporal and above—whether using individual, unit, or hybrid replacement systems.

interagency, and intergovernmental partners appear at the battalion level and above, so intensive leader-team building remains necessary whether unit personnel have been replaced as individuals or as units. MREs are increasingly necessary, not just for Army units, but also for joint, combined, interagency, and intergovernmental teams. Solid, practical means exist to increase unit cohesion before combat, no matter what the personnel-replacement system might be. A clear requirement exists for shared experiential learning across various JIIM cultures that focus on critical leader positions—corporal and above—whether using individual, unit, or hybrid replacement systems.

As America's Army advocates modular, scalar units composed in flexible task organizations designed to fight at the tactical level, unit replacement might well not be desirable.[16] Some issues still need to be addressed, such as—

- Determining how to handle the various leader-team building problems when "Leader's All-," JIIM-, and "just-in-time"-composed units fight. Perhaps it is appropriate to distinguish between combat arms platoons and below, which should be unit-replaced, while company and above and staffs are filled with individual replacements.
- Determining how long a just-in-time unit, filled with specific competencies, needs to train together to become a high-performing leader-team.
- Determining if the same cohesion-building programs are appropriate for all platoons, given routine personnel instability because of casualties, which is why the NCO content is so high in combat arms units.

Clearly, cohesion within fighting units is important, but cohesion can be achieved with intensive experiential learning. Attracting and retaining the best of America is more important; so more individual replacements might be necessary to provide the opportunities that quality youth seek. Shared values, intensive bonding experiences, and DTTPs, reinforced by emerging communities of practice, might compensate where cohesion through unit replacement is not practical.[17] Shared vision, DTTPs, and the lore of the arm or service seem likely to permit rapid cohesion-building once the team for combat is formed. Combined with pragmatic hybrid replacement policies, this might be the best answer at this stage in Transformation.

Downward Migration of Leader Tasks

In 1993, I became concerned that traditional blue-collar (NCO)/white-collar (officer) distinctions were disappearing and that the Army had not thought through the implications. At the time, I described a new way to approach the traditional blue/white-collar model: "The old blue-collar/white-collar distinction seems dated. I believe that this traditional dis-

tinction is inadequate today, post-AirLand Battle, [so] it is more useful to think in terms of iron-, blue-, white-, and gold-collar personnel requirements. Iron-collar requirements are robotic, computer driven. Blue-collar now includes disciplined execution of assigned individual and collective tasks by blue- and iron-collar [personnel]. White-collar refers to leading in the accomplishment of single BOS missions (maneuver, fire support, air defense, or combat service support). Gold-collar refers to the ability to integrate iron, blue, white, and other gold successfully, in a rapidly changing situation, under stress. More precisely, it is the ability to conceptualize and successfully execute the focusing of multiple BOS functions in time and space to achieve the intent of the higher chain of command."[18]

I went on to say, "Gold collar could be the capability to accomplish innovative tasks that achieve tenfold to hundredfold increases in capability. They include the imaginative identification of new solutions, exploiting existing capabilities as they have not been combined before, or conceptualizing and actualizing, by computer, new ways to fight."[19]

In my analogy, sergeants and below are blue-collar, senior NCOs are white-collar, and most officers, particularly major and above, are gold-collar. I believe that the blue-white-gold distinction among tasks performed is valid. However, white-collar has moved from sergeant to corporal in terms of who should be prepared as leaders. In sum, all leaders, both officers and NCOs, are white-collar or gold-collar. These designations have important implications in terms of requirements for continuous learning and in the need to reconfirm the most basic warrior relationships of trust and confidence between officers and NCOs.

The pace of developing each aspect of DTLOMS mandates that, whether white- or gold-collar, all leaders should receive continuous learning. The Tactical Internet and, in time, Land Warrior, will provide each leader and leader-team with the capability to employ support across JIIM. Each platoon leader or fire support chief will be able to bring precision strategic support to tactical operations should events require. Delta operatives were able to do this in Afghanistan and more recently in Iraq, where this remarkably flexible, very hard power was available to Army and Marine small-unit leaders, Special Forces, or the CIA.[20] Current leaders' extraordinary competence provides tangible soft power. Young leaders "sold" Partnership for Peace (PfP) to Eastern Europe and elsewhere. The sheer competence and confidence of similar white- and gold-collar leaders in combat in Operation Iraqi Freedom co-opted the world media embedded in units in Iraq.

This is power down to young leaders in a most profound sense. To be sustained, in fact increased, as envisaged in current doctrine, the Army must expand leader-learning opportunities to keep current in what exists and to employ what is coming. New learning opportunities should include Army Knowledge OnLine or the Warrior Knowledge Network. The remarkable experiences from Iraq should be shared across the Army through communities of practice.[21] With such substantial task migration to younger leaders, the Army should rethink leader preparation, which should be continuous, as is characteristic of great learning and teaching organizations.[22]

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Some might see gold- and white-collar delineation as changing traditional relationships between officers and NCOs.[23] That should not be the case. In fact, vital traditional relationships must be reinforced. The basic relationship is expressed in the young officer shouting "follow me" to subordinates while leading by personal example. The sergeant trains soldiers to fight while the officer plans and leads the fight. Neither NCOs nor officers can accomplish their missions without each other, at least not in America's Army.

Former Sergeant Major of the Army Bill Gates expressed this central relationship between officer and NCO exceedingly well. He said, "We trust and respect the young soldier, the young private. The officers trust and respect the noncommissioned officers. And the noncommissioned officers trust and respect the commissioned officers. And it takes that entire team in order for the Army to work. And it works better than any other Army in the world. And it's very difficult to explain that relationship. [T]he introduction to a group about one or the other will go something like this. I know when I introduced my

company commander, I would always introduce him as this is my company commander. *My* company commander. And when you say that, that carries a tremendous message. This is *my* commanding general or this is *my* chief of staff of the Army. So that carries a powerful message. [Y]ou ask the lieutenant, you know, whose soldiers are these? These are *my* soldiers. This is *my* Army and that's what soldiers say. This is *my* Army, not the Army. It is *my* Army, it is *my* unit. It is *my* lieutenant, *my* sergeant, *my* sergeant major. So people inspire to progress through the ranks of the noncommissioned officer corps because they can see how the NCO corps fits into the overall scheme of the Army" [SIC].[24] This vital relationship must be maintained, in fact, enhanced as downward leader-task migration continues.

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Continuum of Service

The Objective Force 2015 concept paper, which proposes striking change to existing personnel-accession policies and programs, advocates establishing a continuum of service "from new recruit, to AC, to RC, to retiree or contractor. This allows trained, experienced soldiers and leaders to continuously serve. In effect a soldier is able to move from AC to RC status and back throughout his career."[25]

Application is best explained by a Department of the Army G1 advocate of continuum of service: "The only way to get an [AC lieutenant colonel (LTC)] today is to grow a 2d lieutenant, which takes about 16 years. Add the retirement package, and you're looking at a big investment in time and money, and a pretty static, linear process. In order to rapidly increase or decrease a unit, we need the ability to bring skilled soldiers in and out of active duty. Before a buildup, we'd search the database of properly acculturated people (AC and RC) looking for the needed skills and grades. Skills could be acquired via military or civilian schools. Grade would be acquired much as it is now. But instead of growing an LTC, we could take one off the shelf. During a drawdown after the mission, some members would move back to RC status, seamlessly. All members called up to AC status would retain any benefits earned during their AC stint. That is the continuum of service concept: Moving seamlessly in and out of Active Duty over a lifetime of service."[26]

Continuum of service is more than an abstract concept. The Department of Defense is preparing enabling legislation to be submitted to Congress.[27] The devil might be in the details, as concept becomes practice in a strongly competence-based Army, and as Congress seems certain to add changes. Nevertheless, there are challenging leader issues that will likely require research, including the following broad issues in lateral movement of personnel of all grades:

- Establishing, then maintaining, individual task proficiency to perform tasks to standard. Required task proficiency grows vertically appropriate to position and translates horizontally; that is, tasks for leaders as individuals and as members of teams. How proficient must individuals be prior to activation (grouped or distributed)? How much on reentry? Is preparation the responsibility of the unit, or the institution, or the individual? What military SKAs are equivalent to civilian SKAs and, thus, pose no problems to competency? What are appropriate ground rules to determine the lateral grade equivalence to be permitted when there has not been recent service?
- Assimilating, then demonstrating, practical understanding of Army values/culture appropriate to the position to be occupied. Do individuals retain Army values once trained in them? If initial entry training (IET) was received in another military service, does that suffice? What if there was no prior IET? What if the individual has never served? Is web-based training on Army values suitable?
- Determining, then using, incentives to retain desired personnel.

Establishing a continuum of service is long overdue in an Army that clearly requires the best in leaders regardless of the source. If highly competent warriors want to serve, they should. The implications of these important new policies, which permit the personnel system to seek, then access, the finest leader talent available in the United States, will be equivalent in cultural impact to the movement to an all-volunteer Army. The all-volunteer Army brought quality leaders from the bottom up, grown over time. Continuum of service will bring quality leaders laterally, from whatever source, practically immediately.

Pennsylvania Guardsmen attempt to pull a soldier from behind a defensive line during nonlethal weapons training in Bosnia, September 2002.

US Army

Little evidence exists that units cannot be filled, trained, and made into cohesive leader-teams before they deploy. In fact, this occurred prior to deployments to the Balkans, Afghanistan, and Iraq. Mission rehearsal exercises (MREs) became a staple of unit team building. Where units deploy within hours, a combination of repetitive leader assignments, overfill, and intensive continuous training provides stability.

Conscription Hedge

Various hedges have failed. The United States is facing serious military manpower shortages; therefore, the Nation must reinstate total mobilization and conscription.[28] A drafted Army must return, but doing so has immediate policy implications for the Army. For example, there would be a much higher percentage of Category (CAT) IIIB and IV soldiers. There would be a transition to a mobilization production base, which would likely compete for CAT I to IIIA soldiers—the strength of the current volunteer force. There would also be an activation of a mobilization-training base.

Most of the leaders for the expanding Army would be those present at the start of any hostilities. Hopefully, premobilization leader preparation policies will have prepared leaders to occupy positions several echelons higher than they currently hold. These officer and NCOs could provide battle-casualty replacements and leaders for immediate expansion units. The Officer Candidate School and NCOES would train new leaders from available draftees. NCOES' rigorous, competency-based standards could be maintained, although that seems doubtful if the mental category quality of the draftees declines. Experiential training practices should continue and likely be expanded.

A major leader source would be composed of retired and contract personnel who have participated in past continuum of service programs. They could support sustainment of the training base when experienced leaders become replacements.

Thanks to improved learning capabilities (training and education), grouped and distributed, rigorous

We need the ability to bring skilled soldiers in and out of active duty. Before a build-up, we'd search the database of properly acculturated people (AC and RC) looking for the needed skills and grades. Skills could be acquired via military or civilian schools. Grade would be acquired much as it is now. But instead of growing an LTC, we could take one off the shelf. . . . That is the continuum of service concept: Moving seamlessly in and out of Active Duty over a lifetime of service.

training-requirements descriptions by task, condition, and standard and flexible leader accession and preparation precedents, leader preparation should be adequate in a drafted Army.

A New Model

Operation Iraqi Freedom demonstrated startling increases in the capabilities of Army units to fight fully integrated with JIIM formations. The Army has created new organizations to address new problems, such as introducing biological and chemical detection units. Such units comprise "an unusual group pulled together for the current campaign [composed of] members of all branches of the U.S. Armed Forces, as well as the British military and a host of civilian U.S. agencies."[29] This is startling, but not surprising. They are the most recent evolutions in spiral development across each element of DTLOMS.

Combat in Panama, Kuwait, and Iraq were performance checks, as were PfP, the Balkans, 9/11, Afghanistan, and again in Iraq. Doctrinal visions have become reality with the concerted support of executive and legislative leadership. Most heartening has been the accelerating progress in the vital area of leader competence. Adaptive, self-aware leaders thrive. Continuum of service should spread this competence and confidence across a much broader leader pool. Precise expertise will be enabled through lateral entry. Leaders' individual and team competence seems certain to accelerate "cascading excellence" across a spectrum of conflict that has been broadly redefined since 9/11. Special Forces' individual and team competence is spreading across a much broader Army.

The next steps will provide supporting DTLOMS, particularly leaders and leader-teams accustomed to be grouped, just in time, to become high-performing teams to lead modular, scalar units, which might themselves morph from Army to joint to interagency to combined, to dominate execution of new missions, much as those created to detect biological and chemical weapons in Iraq. That is the future, today.

Other than more prepared leaders per small unit, not much will have changed for traditional rifle companies, tank companies, or artillery batteries, which are the enduring foundation of excellence in close combat. For all else, significant changes in leader performance and preparation seem imminent. ***MR***

NOTES

1. The term "mosaic," as used by the U.S. Central Command and the media, describes varying highly adaptable patterns of operations conducted during Operation Iraqi Freedom.
2. President George W. Bush, in an address given at West Point, New York, 1 June 2002.
3. LTG Frederic J. Brown, "Imperatives for Tomorrow," *Military Review* (September-October 2002): 87-88.
4. For a definition of "America's Army," see GEN Gordon R. Sullivan and LTG Frederic J. Brown, "America's Army," *Military Review* (March-April 2002): 3-8.
5. For a general discussion of "teaming," see Brown, "Imperatives for Tomorrow," 84.
6. Brown, "Transformation Under Attack," *Military Review* (May-June 2002): 12.
7. LTG John Riggs, "The Objective Force in 2015," concept paper, final draft, 8 December 2002, i, on-line at Army Knowledge OnLine, accessed 9 December 2002. See also on-line at <www.objectiveforce.army.mil>.
8. Ibid., 8.
9. For a more complete discussion of high-performance team requirements, see Brown, "Preparation of Leaders," Institute for Defense Analyses (IDA), D2382 (January 2000), and "Vertical Command Teams," IDA, D2728 (June 2002).
10. Riggs, 13.
11. U.S. Army National Guard divisions were highly successful, total-force, AC/RC composite organizations that served in Bosnia.
12. For more information about Title 10, see U.S. Code, Title 10, *Armed Forces,* on-line at <www.4law.cornell.edu/uscode/10/>, accessed 22 May 2003.
13. Brown, "Imperatives for Tomorrow," 89.
14. MG (Brevet) Emory Upton, the preeminent Army futurist of the 1870s and 1880s, was a strong, controversial advocate of relying only on national defense policies and the regular Army.
15. As the commander of the Fourth Army, I was surprised to discover that I was in command of USAR units that were indisputably world class. One unit was a technical intelligence unit that was, in fact, on the leading edge of the R&D side of one of the major medical manufacturers in the United States. Another unit was a port engineering unit, which as the premier type unit in the United States, provided the technical support for the Army Engineer School in this area. Staff officers flew in from all over the United States to be present at drills.
16. Also known as ad hoc, hybrid, or just-in-time units. See Brown, *Army in Transition II: Landpower in the Information Age* (McLean, VA: Brassey's, 1993), 20-34, 113, 167.
17. See Brown, "Three Revolutions: From Training to Learning/Teaching and Team Building," scheduled for publication in July-August 2003 *Military Review,* which discusses the potential of Communities of Practice.
18. Brown, *Army in Transition II,* 110.
19. Ibid., 111.
20. For an excellent discussion of hard and soft power, see Joseph S. Nye, Jr., *The Paradox of American Power* (New York: Oxford University Press, 2002), 4-12.
21. See Brown, "Three Revolutions."
22. See Noel M. Tichy, *The Cycle of Leadership* (New York: HarperCollins, 2002), 2-19, for a theoretical discussion of a learning and teaching organization using Special Forces as "best practice" for business.
23. Although I do not discuss warrant officers here, by and large, they are considered to be gold-collar.
24. SMA Bill Gates, "All We Could Be," Interview, AUSA video, 11 November 1996.
25. Riggs, 7.
26. LTC David Doane, Army G1, to Dr. Kathleen Quinkert, Army Research Institute, E-mail message dated 20 March 2003, subject: DCSPER/M&RA Meeting, accessed 24 March 2003.
27. Vince Crawley, "Career Rule Reshuffle? DOD looks to simplify active, reserve requirements," *Army Times,* 14 April 2003, 30.
28. See "Quality over Quantity and Hedges," *Military Review* (July-August 2002): 68, for a more extended discussion of the effect of DTLOMS.
29. Mary Beth Sheridan, "For Unusual Task Force, an Unprecedented Mission," *Washington Post,* 12 March 2003, A10.

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DARPA's Future Combat System Command and Control

Information and intelligent C2 systems are two keys to the success of FCS-equipped forces. Here, the authors outline the Defense Advanced Research Projects Agency's efforts in this area.The nexus of this system of systems must be a C2 system that provides an advanced knowledge base coupled with a creative device that will allow commanders to comprehend the science of warfare while practicing the art.

COMBAT POWER is defined as a linear function, being the sum of maneuver, firepower, and protection multiplied by leadership. In the future combat systems (FCS)-equipped force, combat power becomes an exponential equation where the power of information will raise the factors of maneuver, firepower, protection, and leadership. Therefore, information and intelligent command and control (C2) systems are key to the success of the FCS-equipped force. This C2 system must enable the FCS-equipped force to synchronize intelligence, maneuver, effects, and logistics, as well as the exchange of information with joint or combined task force C2 systems and the Army's tactical C2 systems. In short, the C2 system will enable a force that is both network- and execution-centric to employ combined arms and joint capabilities at the lowest tactical echelons.

The current FCS C2 program was a 32-month Defense Advanced Research Projects Agency (DARPA)-led effort. The program, which ran from 1 October 2000 to 31 May 2003, was to develop a rapid C2 prototype. The test's hypothesis was, "If digitization of current battlefield operating systems can substantially enhance command and control by providing better, more accurate, and timely battlefield data to today's commander and staff for decisionmaking, then a 'new' approach to Battle Command and Control implemented in the form of synthesized/analyzed information presented to the future unit cell commander will enable him to leverage opportunities by focusing on fewer unknowns, clearly visualizing current and future end states, and dictating the tempo within a variety of environments, while being supported by a significantly reduced staff."

In 2000, no organization in the Army or DARPA was looking at a follow-on system to the current Army Battle Command System. DARPA was interested in a system that would support the network-centric approach to warfare that the program proposal envisioned.

The program required a cold start. In 2000, no organization in the Army or DARPA was looking at a follow-on system to the current Army Battle Command System. DARPA was interested in a system

The team began with the capabilities resident in the current Army Battle Command System and added functions they thought network-centric warfare would require. Providing a networked system capable of fully integrating combined and joint arms was critical. The system had to be flexible, configurable to different staff or command positions, and tailorable to individual cognitive functions.

that would support the network-centric approach to warfare that the program proposal envisioned. This bottom-up approach focused on developing and testing a system for the lowest combined arms echelon operating within a larger battle space against an enemy with 2010 technology.

DARPA Lieutenant Colonel Gary Sauer and U.S. Army Communication-Electronics Command civilian Maureen Molz were selected as the program and deputy program managers. To build the C2 prototype, DARPA formed an operational team, a technical team, and an experimentation team. Brigadier General Huba Wass de Czege, U.S. Army, Retired, mentored the operational team, composed of U.S. Army Forces Command and U.S. Army Training and Doctrine Command (TRADOC) officers involved in the Army's Transformation and digitization efforts. In essence, the team was a reconvening of the School of Advanced Military Studies planning cell that operated in the III Corps from 1996 to 1998. Individuals joined the team on their own time and worked on the project with their command's permission as long as the work did not conflict with their assigned duties. The team focused on developing, with TRADOC and the FCS program manager, operational information exchange requirements, C2 requirements, and insight into doctrine, tactics, techniques, and procedures.

The technical team, which included personnel from academia, the Army, and industry, initially focused on the FCS C2 architecture study. The experimentation team consisted of personnel charged with developing the C2 prototype, the FCS C2 federation, and the overall plan to test the program's hypothesis. The experimentation team included a small, three-person cell of human-performance scientists from the U.S. Army Research Institute. The team was to develop and test the C2 prototype over the course of four experiments. The team built a prototype command, control, and communications system in just over 4 months and performed experiments to refine the system (spiral developed) and to gather insight.

The Commander Support Environment

The development team's first task was to define the system's qualities. The operational team designed a network-centric C2 system from the ground up, literally carte blanche. The team began with the capabilities resident in the current Army Battle Command System and added functions they thought network-centric warfare would require. Providing a networked system capable of fully integrating combined and joint arms was critical. The system had to be flexible, configurable to different staff or command positions, and tailorable to individual cognitive functions. The team recognized that people process information differently; therefore, the system had to be flexible and highly adaptable.

Based on an early draft of the FCS operation and organization, the team designed a unit cell organization consisting of manned and robotic air and ground systems to gain insight into C2 issues and for experimentation designed to explore these issues. The team chose the structure's heavy reliance on robotic systems for two reasons. First, using robotics was part of the DARPA director's guidance to the program manager. Second, robotics would provide the greatest C2 challenge to the system. The result was an execution-based C2 system that facilitated rapid mission planning and provided the commander an unprecedented level of flexibility during execution. On the technical side, the team's objectives included developing an integrated operational and C2 architecture to support the FCS unit cell, creating an initial knowledge base for the unit cell, and creating a unit cell collective intelligence to emulate a network of manned and unmanned systems.

The primary differences between the DARPA C2 prototype and the Army's current suite of tactical C2 systems are the level of automation embedded within the C2 prototype, the echelon at which this information is made available for decisionmaking, and the availability of information and data from organic assets.[1] Currently, the battalion/task force is the lowest echelon at which the Army's suite of tactical C2 systems are available to provide battlefield data, broken out by C2 system, across a set of battlefield operating systems (BOS) with limited interoperability.[2]

Because BOS breaks out this data, its presentation is stovepiped and often requires several staff officers cross-talking and comparing one another's screens to turn it into information.

In FCS C2, the program tries to take the logical next step by attempting to use advances in information technology to present all relevant battlefield information in a usable format for dynamic decisionmaking, via a single, unique, integrated graphical user interface. Instead of asking soldiers to assemble, reconcile, fuse, and place data into an operational context, that is, to convert data into information, the C2 prototype uses a knowledge base to minimize the amount of human interaction needed. The C2 prototype also uses its knowledge base to conduct dynamic planning or replanning, either fully autonomous or with user interaction, thereby turning the Army's current intense, plan-centric C2 process into an execution-based, battle-command process (see chart).

CSE in FCS C2

Understanding TRADOC's vision of the 2020 environment is paramount. TRADOC envisions creating a battle-command system that will be the first Army system to enable the art and science of battle command within a single integrated architecture. The Battle Command System (BCS) is a successful merger between the art of decisionmaking and leadership with the science of information technology. The BCS, a network-centric, web-based system

Conflict-resolution modeling, based on current doctrine models used at the U.S. Army Command and General Staff College and being further refined through DARPA experimentation, provides constructive evaluation of COAs.

operating with standard software and equipment, will exist in multiple configurations from units of action (UA) to units of employment (UE) to mobile command elements and home station operations centers, including installation, institutional, and other government or nongovernment agencies. The speculation is that unless BCS becomes more commander-driven and execution-centric, Army forces will not be able to cope with the rapidity of action and transition nor be able to exploit their full capabilities.

The commander's preparation of the battlefield (CPB), using a BCS in which the art and science of decisionmaking and leadership are merged with information technology enables commander- and network-centric warfare. The CSE provides a single environment where an integrated and continuously updating intelligence preparation of the battlefield (IPB) or CPB is running where the commander can see it, share it, and execute immediate operational decisions based on it. This is powerful stuff.

Current Army Tactical C2 Systems	FCS C2
✓ Automated individual systems used to provide support to combined arms operations.	✓ System of systems approach. Process is embedded in automated systems relaxing human requirements.
✓ Automation enables process.	✓ Automation is focus.
✓ Battalion and above.	✓ Lowest FCS echelon.
✓ Limited planning (not integrated) capability.	✓ Dynamic planning/replanning.
✓ Joint common database/server. Requires mining into functional areas.	✓ Knowledge base approach.
✓ Staff does synthesis/analysis process data through deliberate decisionmaking process.	✓ Syntheses/analyses of information offloaded to HW/SW environment. Leverages knowledge base and collaborative intelligence module.
✓ Eight separate, distinct functional areas (intelligence, maneuver, fire support, air defense, mobility/countermobility, combat service support, C2, and information operations).	✓ Integrated functions of situational awareness, effects, battlespace management, and sustainment.
✓ Large staff.	✓ Reduced staff.
✓ Deliberate linear process augmented by automation.	✓ Time compression/dynamic planning process done by automation. Two modes: • Fully autonomous. • Commander/user intervention.

The CSE provides a single environment where an integrated and continuously updating intelligence preparation of the battlefield or CPB is running where the commander can see it, share it, and execute immediate operational decisions based on it. This is powerful stuff.

The CSE provides the tools for the commander and staff to conduct planning as well as execution in commander-centric, distributed, mobile environments. The common relevant operating picture (CROP) is a byproduct of the CPB process, the mission received from higher headquarters, and the data and information received through sensor-fusion and the network. Commanders and staffs at all echelons can collaborate by conducting truly parallel planning, exchanging respective CROPs laterally and vertically. CROP visualization affords commanders and staff officers the agility to synchronize operations rapidly and exchange relevant information to seize opportunities and maintain initiative before and during tactical operations.

The CSE's mission workspace provides the ability to establish graphic layers to develop multiple courses of action (COAs) on a common map with common force structures. The reference task organization tool provides current organizational structures with information down to weapons system detail (range, weight, length, height, and relative combat power). The tool also allows for building new platforms and units or modifying existing systems if their capabilities change, which is extremely flexible and tailorable. This level of detail allows the display of organizations at any level and scale from individual platforms up to division- and corps-level icons. The relative combat power (RCP) of these organizations aggregates and deaggragates as the level of the organization displayed changes. (For example, a corps or joint task force commander could, if he so chose, drill down to see the location of a section of the 1st Platoon, A Company, 1st Combined Arms Battalion, 1st UE Division.) The RCP of units is tied to the status of those units and adjusts according to percentage strengths the planner establishes, which is tied to the units-on-board systems report.

The system encourages the integration of IPB products into planning, wargaming, and reconnaissance and surveillance (R&S) execution. The ability to show icons as either templated or confirmed leads to the development of R&S planning and the tasking of manned and unmanned ground and airborne platforms. The integrated sensor-fusion network then displays the results on the CROP, providing, at the least, confirmation or denial of the enemy set and, at best, targetable information. Icons can then be changed from templated to confirmed. With the sensor-shooter link thus shortened, either higher headquarters as part of shaping operations or organic assets can engage enemy platforms or units.

The route editor; graphic control measures (with smart graphics); close battle editor; surface-to-surface fires; and automated and manual attack guidance matrixes allow the user to conduct wargaming or synchronization drills either manually or in a fully automated mode. Conflict-resolution modeling, based on current doctrine models used at the U.S. Army Command and General Staff College and being further refined through DARPA experimentation, provides constructive evaluation of COAs.

The animation function enables visualization of friendly and enemy unit movement and BOS synchronization in real time and in slow motion or fast forward. The synchronization matrix (with time bar, unit tasks, and purposes) is clearly displayed and can be edited, providing a quick option for COA adjustments. Digital databases, smart graphics, and the logic underlying modified combined obstacle overlay data, including the existing traffic networks and tactical mobility corridors, ensure planners do not violate the laws of physics. Systems perform as they will in a battlefield environment. Smart ground combat models, such as a restrictive fire line, are tied to a unit's movement or to time allowing effective multiunit synchronization and active fratricide prevention. The route planner provides auto-generated routes simply by clicking two or more points. However, the user can also manually plan routes when the situation dictates. When a unit is told to move a certain distance and conduct an attack at a specific time, the synchronization matrix will show whether the unit can get there in the time allocated, displaying the task in red.

Some programmed characteristics are associated with specific units resident in the system's knowledge base. The unit's footprint—the actual space it occupies on the ground—is based on the task at hand; default formation; sensor and weapons systems ranges; and so on. Footprints exist and vary as affected by terrain. Just as when a unit is given a mission and the system generates a route and formation to enable the unit to best accomplish the mis-

US Army

The DARPA FCS C2 experimental vehicle mockup.

The system's functionality gets right to the heart of the BCS objective of merging the art of decisionmaking and leadership with the science of information management and its technological aspects in a commander- and network-centric process. DARPA CSE integrates the best parts of the traditional military decisionmaking process without the lock-step rigidness that causes commanders and staffs to abandon it when faced with critical time constraints.

sion, the system will generate a route to best accomplish the mission when aerial sensor platforms receive a mission, such as reconnaissance, named area of interest, and sensor (moving target indicator, search and rescue, or direct-view optics). The ability to drag and drop or copy individual graphics or entire COAs allows rapid development of multiple COAs. The on plan/off plan monitoring encourages the user to identify problems and to develop contingency COAs by a user even during execution.

The system's functionality gets right to the heart of the BCS objective of merging the art of decisionmaking and leadership with the science of information management and its technological aspects in a commander- and network-centric process. DARPA CSE integrates the best parts of the traditional military decisionmaking process without the lock-step rigidness that causes commanders and staffs to abandon it when faced with critical time constraints.

The key to FCS-system survivability is to develop the situation out of contact and to assure that when close combat occurs it is at a time and place of the user's choice. Therefore, the shaping fight is instrumental in setting the conditions of success for the maneuver force. IPB/CPB identifies the enemy COAs that are most likely to be dangerous and vets the enemy's situation template with the latest

No other C2 project has progressed as far on the development pathway to the transformed Army's future needs. To provide commanders with the best, most accurate, and timely information, a fusion of sensors, shooters, machines, and humans is necessary.

sensor-fusion picture from organic to national asset sources. The commander and staff analyze enemy high-value targets and develop high-payoff target lists (HPTL) for each COA. The COA developed should use the latest and best information. The higher headquarters identifies targets best engaged by higher headquarters assets (such as air interdiction, close air support (CAS), Comanche) and passes down the task best done by subordinates.

The attack guidance matrix (AGM) assists in developing fire planning and execution of the fire plan. AGM facilitates networked fires by conducting target pairing and shortening the sensor-shooter link. The AGM is developed based on the HPTL, the enemy forces arrayed in sector, and the mission. In developing the AGM, the user matches the most effective munitions (the ones with the highest probability of kill) against the priority targets on the HPTL. Targets might include air defense systems (to protect unmanned aerial vehicles and so on), long-range artillery, and direct fire systems (tank/antitank). The AGM binds the sensor network to the network of fires through an automated system of target weapons pairing. The AGM is the key technology that allows for compression of the traditional BOS by enabling the commander access to organic sensor data and a unitary fire control system capable of employing line of sight, beyond line of sight, non-line of sight, and joint fires.

Targeting is built around the decide, detect, deliver, and assess methodology (D3A). The decide process is established in the HPTL and AGM build. The detect phase is R&S development and execution (sensor fusion, air and ground reconnaissance, and counter fire radar). The deliver phase is where the commander melds and applies art and science through assigned autofire missions, initiated when a system is detected, set in the AGM. This is the commander's tactical read and synchronized ground maneuver of manned and unmanned systems. The final assess process is battle damage assessment and reporting (BDAR). Every indirect-fire engagement requires BDAR to ensure that the desired effect on the target was achieved and to decide whether reengagement is necessary. The CSE enables D3A through the integrated CROP, AGM, auto-BDAR cueing (the tasking of the nearest available unemployed reconnaissance asset to the target) and ability to plot tracks for Loiter Air Munitions.

The Road Ahead

The DARPA FCS C2 commander's support environment project provides a clear road ahead for future experimentation and effort. No other C2 project has progressed as far on the development pathway to the transformed Army's future needs. To provide commanders with the best, most accurate, and timely information, a fusion of sensors, shooters, machines, and humans is necessary. The nexus of this system of systems must be a C2 system that provides an advanced knowledge base coupled with a creative device that will allow commanders to comprehend the science of warfare while practicing the art. The CSE is a solid step forward. ***MR***

NOTES

1. The Army's current suite of tactical C2 systems includes the All-Source Analysis System, the Maneuver Control System, the Advanced Tactical Field Artillery System, the Air and Missile Defense Work Station, and the Combat Service Support Control System.
2. The battlefield operating systems include intelligence, maneuver, fire support, air defense, mobility/countermobility/survivability, combat service support, and command and control.

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Learning from Sun Tzu

Chaplain (Colonel) Douglas M. McCready, U.S. Army Reserve

Sun Tzu's *The Art of War* is, of course, a classic. At least six English translations can be found in most large bookstores on bookshelves next to another much cited but little read military favorite, Carl von Clausewitz's *On War* (Knopf, New York, 1993).[1] Translator Roger Ames describes *The Art of War* as "the world's foremost classic on military strategy."[2]

During the Vietnam war, it was popular for Army officers to be seen carrying copies of the works of Sun Tzu and Mao Tse-tung. It is unlikely that many who carried the books read them, and few who read them understood them.

Sun Tzu was a Chinese military leader and philosopher. Little is certain regarding his life, including when he lived. The biography in Ssu-ma Ch'ien's *Historical Records* (Oxford University Press, New York, 1994), dating from the early 1st century B.C., describes Sun Tzu as a contemporary of Confucius (551-479 B.C.) born in what is now Shandung Province. Translator Samuel B. Griffith suggests that Sun Tzu probably lived during the Warring States period (453-221 B.C.) because the military details of *The Art of War* fit that time better than they do the earlier Spring and Autumn period.[3]

The Warring States period began with eight major states whose shifting alliances and slow consolidation resulted in the first unification of China under the short-lived Qin Empire. Sun Tzu, apparently a military leader for one of the warring states, determined to record his strategic and tactical record for later generations. His work has continued to influence Chinese military writing.

Mao Tse-tung applied Sun Tzu's ideas to his own military writings of the Chinese civil war of the 1930s and 1940s. North Vietnamese commanders Ho Chi Minh and Vo Nguyen Giap also drew on Sun Tzu's wisdom, using his ideas first against the French, then against the United States.

This modern history leads many to consider *The Art of War* to be a text for the underdog. In light of the current discussion about asymmetrical warfare, this is an important consideration, but Sun Tzu's ideas are also available to stronger states. In either case, political and military leaders of stronger states (such as the United States) should become familiar with Sun Tzu because if they will not be using his ideas, they must be ready to protect themselves against others who will.

Griffith, a World War II veteran, devotes an appendix to detailing how the Japanese applied Sun Tzu's axioms. He says Japan produced more than 100 editions of *The Art of War* and applied Sun Tzu's wisdom to virtually every aspect of Japanese life, including business. Twenty-first century Americans are less likely to be surprised by business appropriating military strategy than was Griffith in 1963.

Sun Tzu and Clausewitz exemplify two contrasting concepts of war. For Clausewitz, war is the continuation of politics by other means. For Sun Tzu, war is one among many political tools national leaders can use to accomplish their ends. While this distinction appears minimal, it translates into the difference between U.S. and North Vietnamese strategy in the Vietnam war. It also explains why the United States lost that war.

In his analysis of the Vietnam war, Harry Summers recounts a conversation between a U.S. Army colonel and his North Vietnamese counterpart in Hanoi after the war. The American said North Vietnam had never defeated the United States on the battlefield. The North Vietnamese conceded the point but added that it was irrelevant—the war was not about battlefield victories.[4]

Using Clausewitz, Summers details the flaws he believes led to the American defeat in Vietnam; he never mentions Sun Tzu. Many of his points are correct, but in the end they are irrelevant to the U.S. effort in Vietnam because neither Summers nor the strategic decisionmakers who planned the Vietnam war fully understood the nature of the war they were fighting.

North Vietnam and Western Philosophy

The warm reception Summers' book received at the Army's highest level shows that the U.S. military still does not understand what happened in Vietnam. North Vietnamese strategy, like that of other East Asian nations, resembled much more the military philosophy of Sun Tzu than it did the thinking of Clausewitz or other Western strategists. The reported surprise of U.S. military leaders that a small number of Special Forces soldiers could motivate Afghanistan's Northern Alliance army to defeat the Taliban regime without the infusion of large numbers of U.S. ground troops shows that Sun Tzu's lessons still are not understood or accepted by senior leaders.

During the lengthy Indochina War, French and American commanders sought repeatedly and generally unsuccessfully to entice their Viet Minh, Viet Cong, and North Vietnamese Army adversaries to engage them under conditions where superior Western firepower, maneuver, and logistics would predetermine the outcome. The French got their set-piece battle at Dien Bien Phu. The United States got its major opportunity at Khe Sanh. The

French defeat was not major in military terms, but it was decisive psychologically and led quickly to a French withdrawal from Indochina.

At Khe Sanh, U.S. forces were decoyed to a border region in terrain only slightly better than at Dien Bien Phu while the Viet Cong mounted a major offensive in the urban areas. American forces held at Khe Sanh, and American and South Vietnamese forces won militarily in the cities; however, the surprise Viet Cong attack had a psychological effect on the U.S. population similar to that of Dien Bien Phu on the French electorate. The United States won the battles, but it lost the war because it did not realize it was not fighting the same war as its adversary. Sun Tzu warns that when we know ourselves but not our enemy, our chance of victory is only about half.

This different understanding of the nature of war characterizes the approach toward warfare that many of the United States' potential opponents have. This approach emphasizes stratagem and maneuver over firepower and seeks to set the terms of conflict even before the opponent is aware conflict exists. More important, this approach recognizes that the decisive battlefield is rarely the one on which troops are deployed. Instead, the battlefield lies in the political will of the opponent, the hearts and minds of its citizens.

Unconventional Warfare

So it is important not only for U.S. generals to understand Sun Tzu's approach to warfare, it is important for their civilian masters, who make the strategic decisions, to understand because their thinking is a key target of the enemy. Changing how we think will not be easy, as it goes against the grain of what has been called the American way of war.

Much of what Sun Tzu teaches falls in the category of what Americans call unconventional warfare. Historically, this has been consigned to a supporting role to the main, conventional effort. While it is true that Sun Tzu's approach is unconventional, he does discuss how large, regular armies should operate against opponents. Conventional warriors can learn from Sun Tzu as readily as can guerrillas. Conventional and unconventional are in the eye of the beholder, and no one should assume his definitions are normative.

Sun Tzu says defeating the enemy without battle requires greater skill than winning on the battlefield. In saying this, he is stressing maneuver over firepower—that maneuver might involve politics and diplomacy or combat formations. Yet, while Sun Tzu prefers that the military leader defeat his opponent without having to resort to combat, he recognizes this is frequently impossible.

Sun Tzu develops in two ways his idea of victory without combat. The first is to so order the political and diplomatic context that one's opponent has obviously lost before he has even begun to recognize the futility of fighting. The second is to deploy one's own forces in a way that neutralizes the enemy's strategy. His advice that "the best military policy is to attack strategies, next to attack alliances, the next to attack soldiers, and the worst to assault walled cities," shows he prefers diplomatic initiative.[5]

Elsewhere, Sun Tzu says the use of military force is a drain on the treasury no matter how great the victory. American doctrine advocates getting inside the enemy's decision cycle during battle; Sun Tzu says we should seek to get inside the enemy's diplomatic decision cycle so we can avoid battle altogether. Best of all is to get inside the enemy's mind. This way we not only maintain the initiative, but we can control the enemy's response. If we cannot do either of these, we should seek to get inside the enemy's strategic decisionmaking cycle. Doing any of these, however, requires good intelligence, and not the kind of intelligence the United States is best able to collect. Sun Tzu's advice has the greatest possibility of succeeding when the enemy's leadership has been penetrated by human agents; signals and photographic intelligence are much less effective.

One difference between Sun Tzu's approach and the American way of war can be seen as the difference between the Asian game of go and the Western game of chess. In go, the opponents place their pieces so as to maximize their control and restrict their opponent's options. The enemy loses pieces and the game by being outmaneuvered, not through direct attack. In chess, the goal is to capture the opponent's key piece, the king. This requires territorial control, but one gains that control by capturing enemy pieces so they cannot threaten one's own king and so that they cannot protect their own king.

For military professionals, Sun Tzu notes that the down side of his proposal is that commanders who win without having to resort to battle do not gain a reputation for wisdom or credit for bravery.[6] The kind of victory Sun Tzu recommends happens without publicity or the usual trappings of military success. I believe a major factor in success is the absence of publicity and parades. Publicity would require the enemy to respond in ways that silence does not.

Sun Tzu offers a way for weaker forces to defeat those more powerful. Because no state or nonstate actor more powerful than the United States currently exists, the approaches Sun Tzu recommends are among those U.S. political and military leaders will face in the coming decades.

Israel's Failure to Heed

Israel's difficulties during its spring 2002 counterterrorist operations reflect a failure to apply Sun Tzu's lessons. As the undisputed military leader in the Middle East, Israel faced the same asymmetrical strategy the United States can expect to face from future opponents. Despite its reputation for the indirect approach and deception operations, Israel massed conventional forces to urban areas suspected of harboring Palestinian terrorists. The result of the Israeli offensive was heavy Israeli military casualties, accusations of heavy Palestinian civilian deaths, a Palestinian propaganda victory, and loss of much international sympathy and support. Among both Israelis and Palestinians, this reinforced the arguments of hard-line leaders and made a nonmilitary solution of the situation even more unlikely.

One crucial Israeli error was its belief that Palestinian fighters in urban camps would offer only token resistance.[7] A second was its inattention to the propaganda battle. Israel won the military battle of the urban refugee camps, but in doing so created a new pool of suicide bombers; put its major international ally, the United States, in an awkward diplomatic position in the Middle East; allowed itself to be portrayed as an oppressive bully; and turned Yassar Arafat into a hero. A better approach might have been to discredit Arafat and separate him from his Palestinian base, to minimize the use of conventional military force, and to use a propaganda offensive to emphasize Israeli civilian casualties and the Arab states' abandonment of the Palestinians. Israel won the urban battle, but it lost the propaganda and psychological wars.

Sun Tzu said, "All warfare is based on deception. . . . A military leader of wisdom and ability lays deep plans for what other people do not figure on."[8] U.S. doctrine recognizes the importance of deception in U.S. operations and stresses the importance of intelligence, but Americans have proven much better at planning their own deception actions than recognizing those of their enemies. The 1968 Tet offensive is an excellent example of this. While Tet was a U.S. and South Vietnamese military victory, it was a political and propaganda disaster and became the turning point that led to U.S. withdrawal from the war. While Sun Tzu's ideas about using deception are mostly common sense, they are most often tools for the weak to use against the strong. With overwhelming U.S. military power a key factor in the modern world, Sun Tzu's comments on deception operations should be a warning to strategic planners.

Sun Tzu Everywhere and Nowhere

The sort of deception Sun Tzu talks about does not come from studying manuals. It is a way of thinking and being, a way that is alien to Western intellectual and cultural traditions. Sun Tzu describes it thus:

> *So veiled and subtle,*
> *To the point of having no form;*
> *So mysterious and miraculous,*
> *To the point of making no sound.*
> *Therefore he can be arbiter of the enemy's fate.*[9]

Sun Tzu's army is everywhere and yet nowhere. Griffith translates the beginning of the verse as "Subtle and insubstantial, the expert leaves no trace."[10] This is the epitome of the indirect approach. There are no heavy battalions or massed batteries in this picture. They come into view only if the strategy of indirection and deception fails or is left untried.

Linked with deception is an emphasis on psychological warfare directed against enemy soldiers to destroy their morale and against enemy leaders to overstress them and create tension between them. The goal is to defeat the enemy before the battle so the outcome of the battle is a foregone conclusion or so the enemy cannot appear on the battlefield. Sun Tzu's counsel is most effective where leaders feel the need to make every significant decision, ignoring battle rhythm and sleep plans. The U.S. military, particularly its Reserve Components, is weak at this point.

Of the 13 chapters in *The Art of War*, one is devoted entirely to examining the role of intelligence in wartime. The other 12 include intelligence where appropriate to their subject. Sun Tzu's strategy of deception and maneuver depends much more on good intelligence than does a strategy emphasizing large armies, firepower, and decisive battles. The chapter titled "Using Spies" exemplifies an approach to intelligence markedly different from the modern American emphasis on high-tech surveillance and signals interception. These have their own great value, but neither offers insight into enemy leaders' thinking in the way human intelligence does. Sun Tzu says "intelligence is of the essence in warfare—it is what the armies depend upon in their every move."[11]

As Chinese commentators on Sun Tzu make clear, the intelligence essential to this approach to war includes the names of key enemy personnel, as well as their personalities and character. A leader will then know his enemies' strengths and weaknesses and also their preferred behavior, and their susceptibility to deception operations. While signal intelligence might provide some of this knowledge, most of it can only come through human agents who know personally the enemy leaders. During the American Civil War, commanders on both sides were successful in deception operations because they had known and worked with their opposite numbers for many years before the war. This long-term personal contact was itself good intelligence and was supplemented by the use of spies. Increasingly sophisticated counters to technical intelligence-collection require a return to the use of human agents.

Many Western and Chinese scholars have concluded Sun Tzu believed noncombat victories are usually possible. He certainly believed them preferable, but the fact that the overwhelming majority of *The Art of War* is about how to fight seems to show he considered noncombat victory an ideal rarely realized.

Sun Tzu also believed political rulers should leave strategy and tactics entirely to their generals. He even says generals should ignore their civilian leaders when the military situation requires.[12] While this might work in authoritarian societies, it is incompatible with modern democratic societies because it denies civilian control of the military. It also seems to be inconsistent with Sun Tzu's understanding of war as one aspect of a multifaceted approach to interstate relations. Such an understanding seems to require overall control of every part of the approach by the political ruler. While it is true that ignorant civilian leadership is harmful to the military effort, the solution is not civilian uninvolvement, but informed civilian involvement.

Both Sun Tzu and his ancient Chinese commentators say success in battle sometimes depends on placing soldiers in positions where they must fight or die. This is not part of the American way of war. Nonetheless, we should recognize that for other cultures this is standard procedure,

and it will affect the tactics of U.S. units facing such enemies.

Modern international relations specialists in the Realist tradition, such as Robert Kaplan, claim Sun Tzu as one of their own. A careful reading of *The Art of War* calls this claim into question. Sun Tzu writes, "The expert in using the military builds upon the way (*tao*) and holds fast to military regulations, and thus is able to be the arbiter of victory and defeat."[13] Tu Mu's commentary on this passage says, "The *Tao* is the way of humanity and justice. . . . Those who excel in war first cultivate their own humanity and justice and maintain their laws and institutions."[14] Tu Mu's Sun Tzu is concerned about the character of the military leader because good character is essential to victory.

Know Your Enemy or Lose Half the Battles

Sun Tzu's military thinking is not the last word in strategy, but it is a source from which Western military and political leaders can learn much. It represents an approach to conflict against which the United States has enjoyed tactical success at the cost of strategic defeat. Seriously considering a strategic approach that influences East and Southeast Asian political and military strategy (especially that of China) will richly repay the effort. As Sun Tzu himself wrote:

He who knows the enemy
and himself
Will never in a hundred
battles be at risk;
He who does not know the
enemy but knows himself
Will sometimes win and
sometimes lose;
He who knows neither the
enemy nor himself
Will be at risk in every
battle.[15]

Too often, American knowledge of its foes has been limited to easily measurable economic and military data, and it has overlooked the much more important cultural, historical, and psychological elements. The way to minimize casualties has been to employ massive doses of firepower rather than using a strategy that seeks to defeat the enemy before he can muster his forces on the field of battle.

In the coming decades, with the United States remaining the world's dominant military force, employing Sun Tzu's strategic lessons will be more important than ever. The United States might not incorporate all of Sun Tzu's lessons into its offensive strategy, but it will face opponents who use these lessons, or similar lessons, against the United States. Opponents recognize that direct confrontation with the United States can only result in their defeat. ***MR***

NOTES

1. I use the recent translation of Sun Tzu, *The Art of War*, translated and edited by Roger Ames (New York: Ballentine, 1993). The book includes material discovered after Samuel B. Griffith's well-known translation of Sun Tzu, *The Art of War* (New York: Oxford) was published in 1971. Many specialists consider Ames a more accurate translation.
2. Ames, 35.
3. Griffith challenges the traditional earlier Chinese dating of Sun Tzu and argues that the political and military situation Sun Tzu describes did not exist before the Warring States period. Although Griffith is unsure whether Sun Tzu was an actual historical figure, he believes the text is from the 4th century B.C.
4. Harry G. Summers, Jr., *On Strategy: A Critical Analysis of the Vietnam War* (Novato, CA: Presidio Press, 1982), 1.
5. Ames, 111.
6. Ibid., 116.
7. James Bennett and David Rohde, "In Rubble of a Refugee Camp, Bitter Lessons for 2 Enemies," *The New York Times*, 21 April 2002, 1.
8. Griffith, 17.
9. Ames, 123.
10. Griffith, 97.
11. Ames, 171.
12. In *Obeying Orders: Atrocity, Military Discipline & the Law of War* (New Brunswick, NJ: Transaction, 1999), Mark J. Osiel offers a more sympathetic reading of Sun Tzu's counsel that military leaders should disobey their civilian superiors under certain circumstances (317). I think, however, that Sun Tzu approaches the subject with an understanding of civil-military relations that Osiel would consider unacceptable.
13. Ames, 116.
14. Griffith, 88.
15. Ames, 113.

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MR Book Reviews

BETRAYAL AND TREASON: Violations of Trust and Loyalty, Nachman Ben-Yehuda, Westview Press, Boulder, CO, 2001, 401 pages, $35.00.

Nachman Ben-Yehuda is an Israeli sociologist specializing in the study of deviance. *Betrayal and Treason: Violations of Trust and Loyalty* is a fascinating, original, and creative book written with a reasonable degree of attention to the needs of the reader. There is no jargon to speak of, and there are occasional flashes of insight.

We usually think of treason as a violation of law, but for Ben-Yehuda, treason is a moral offense that requires action, normally clandestine, that betrays the trust and loyalty of the traitor's community. Treason situates itself at the end of a continuum whose other end is the innocuous white lie, the illicit affair. There is no qualitative difference across the continuum; violation of trust and loyalty produces betrayal. Ben-Yehuda expends almost a third of the text developing this theory of the continuum, the universality of betrayal, and the nature of treason.

Of course it is more difficult to recognize treason in fact than in theory. By sampling the many cases of purported betrayal, Ben-Yehuda reveals that there are always extenuating and complicating circumstances. What appears to be clear treason or other betrayal is not necessarily so. Sometimes the seeming betrayal is a case of being honest and open about being loyal to a higher or different call.

Those we do not trust cannot betray us. Ben-Yehuda would have us consider the spy, especially the mole. Not being originally of the community, the mole cannot really betray. His loyalty is elsewhere. Consider the turncoat, such as Benedict Arnold, during a time of mixed and shifting loyalties. Or consider the many, including King Edward VIII, whose loyalties lay with fascism before fascism was the enemy. Their crime, if any, was to be consistent, faithful, and loyal to an idea.

According to Ben-Yehuda, there are others who seemingly betray. The collaborator's loyalty might be to the greater good of the nation—loyalty to the people instead of merely the government. The Vichy leaders, Philippe Petain and Pierre Laval, fall into this category, as do the Judenrat, the Jewish collaborators with the Nazi deportations. And, as in the case of Tokyo Rose, collaboration can be involuntary, a matter of doing whatever is necessary for survival. Treason? Not necessarily.

Some traitors become heroes over time and vice versa. La Malinche in Mexico is an example of one who moved from hero to villain when the European perspective gave way to the indigenous perspective. And, there is a difference of perspective. Benedict Arnold is no traitor in England; Nathan Hale is no betrayer in the United States.

This book is loaded with examples, all trying to make the point that defining treason is not quite as easy as believed. Treason is much more subtle, more nebulous, more case-specific on the sliding and shifting continuum. It is easy to shout "treason"; it is much harder to demonstrate that treason is really the case.

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AFGHANISTAN'S ENDLESS WAR: State Failure, Regional Politics, and the Rise of the Taliban, Larry P. Goodson, University of Washington Press, Seattle, 2002, 264 pages, $22.50.

Working on his doctoral dissertation and armed with a grant from the American Institute for Pakistan studies, Associate Professor Larry P. Goodson became hooked on the region. His first book is a great find for those with little knowledge about modern Afghanistan. The easy-to-read book delves into the events that have shaped a war-torn country and the character of its people.

The first chapter eloquently describes four factors that are obstacles to nation-building in Afghanistan. First, Afghanistan's population features deep, multifaceted cleavages. Primarily, people are divided ethnically and linguistically and further subdivided into tribes and sectarian and racial divisions. Second, although Afghanis are united by faith, local customs are interwoven into religion, causing variations in the way Islam is practiced and interpreted. Third, the Afghan social system is based solely on communal loyalties, emphasizing tribe above state. Fourth, Afghanistan's rugged terrain serves to isolate it, not only internationally, but also from the central government in Kabul. These factors undermine any efforts at establishing a viable government.

Although the nation possesses Tajik, Uzbek, Hazara, and Aimaq populations, the Pushtuns have led the country since the mid-18th century. Goodson identifies the major groupings of Pushtuns: the Durranis, who ruled from 1749 to 1978; the Ghilzais with whom the Durranis compete for power; and a patchwork of 11 smaller tribes classified as true Pushtuns.

Pushtun dominance ensured the adoption of their tribal code as the law of the land. Known as *pushtunwali*, the tribal code includes such basic concepts as *melmastia* (hospitality), *nanawati* (asylum), *badal* (revenge), and *ghayrat* (defense of honor). The Pushtun tradition also includes the convening of the tribal council also known as *jirga* to resolve major issues. Non-Pushtuns resent such ascendancy and dominance and have attempted to destabilize the ruling ethnic group. This begins to explain why the nation continues to lapse into civil war after foreign enemies have been defeated.

In trying to understand the totality of the Soviet intervention of

Afghanistan and beyond (from 1978 to 1998), Goodson identifies eight distinct phases of the decade-long war. Each phase averages 35 months in length and represents major changes in political and military strategy. The first four phases primarily deal with Afghan communists and Soviets trying to subdue the Mujahideen. The next two phases deal with methods the communists used to extricate themselves. The final two phases deal with the civil strife on the departure of Soviet forces and the rise of the Taliban. The Mujahideen's victory was due to four factors: the nature of the insurgency; the refugees support of the insurgents; the involvement of outside actors in support of the insurgents; and the Soviet Union's economic plight that eventually led to downfall. The seventh and eighth phases see a marked increase in radical Islamic thought exported from Pakistan and Saudi Arabia as those countries provided weapons to Mujahideen forces advancing their cause.

In an effort to open the Uzbekistan and Tajikistan regions to Pakistani trade, the Taliban became instrumental in subduing warring factions who hampered trade. As it set about redressing wrongs, the Taliban had the initial support of the Afghans. Once in power, they knew only fighting and an extremist brand of Deobndi-Wahabi Islam. Not knowing anything about running a country, they retreated into a cruel abyss of religious fervor.

The book ends with Goodson's predictions about the future of Afghanistan. Because Goodson wrote his book before 9/11, he assumes the Taliban will continue in power. Of the several topics he addresses on Afghanistan's reconstruction, one is CENTGAS, a conglomerate that earns substantial revenue piping Central Asian natural gas across Afghanistan. Goodson also addresses agricultural rehabilitation, promoting crop substitution to curb opium growth and efforts to de-mine productive lands.

The book is an excellent primer on Afghanistan and is highly recommended for those wanting a quick orientation on the socioeconomic, political, and historical issues facing the region. The appendix contains a good who's who in modern Afghanistan and how powerful they or their political parties are.

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TANK: The Progress of the Monstrous War Machine, Patrick Wright, Viking Press, NY, 2002, 508 pages, $29.95.

The tank is the embodiment of modern war. *Tank* is a penetrating look at this centerpiece of modern military technology. From the boxy monstrosities that clanked over trenches and broke the stalemate in World War I to the M1 tank that ruled the battlefield during the 1991 Persian Gulf war, the tank has dominated military theory and practice throughout the 20th century.

Author Patrick Wright's exhaustive research offers a compendium of facts usually eclipsed in conventional military or technical histories. Wright argues that the tank subsequently began to appear primarily as a tool governments used to control their own people. A professor of modern cultural studies at the United Kingdom's Nottingham Trent University, Wright brings vital social and micro-historical data to military history and fleshes out the story of one of the 20th century's most powerful, destructive, and highly symbolic creations.

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WAR STORIES: Remembering World War II, Elizabeth Mullener, Louisiana State University Press, Baton Rouge, 2002, 332 pages, $34.95.

With what Tom Brokaw calls the "greatest generation" vanishing at a rapid rate, it is not surprising to see more memoirs and personal histories appearing that describe individual recollections of World War II. *War Stories*, by *New Orleans Times-Picayune* reporter Elizabeth Mullener, is a collection of 53 interviews gathered over a dozen years with veterans and civilians whose experiences span German dictator Adolf Hitler's 1939 invasion of Poland to the Nuremberg trials. These oral histories tend to reflect the view from the ground rather than from the top since most of the stars said their pieces years ago. For example, one piece is from a former Polish cavalry officer who reports his army's rapid collapse in the face of Germany's blitzkrieg, the first major application of combined arms. The harsh life under German occupation in Norway and Belgium are grim reminders of the actions that brought the last Nazi leaders to the gallows.

Soldiers, sailors, and airmen describe U.S. Army General George S. Patton's battlefield presence, Japan's surrender, and some of the war's fiercest battles in Europe and the Pacific, from Corregidor and Midway to the Bulge and Okinawa. The demise of the segregated army that created the Red Ball Express and the Tuskegee airmen marks a significant advance in the civilization of American society. That each of these war stories could be found in a single city indicates the totality of America's engagement. An introduction and cogent comments by Stephen Ambrose interspersed throughout the text add meaningful perspective. *War Stories* is nothing less than the story of American's rise to the greatness that inspired Brokaw's homage.

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MILITARY FOUNDATIONS OF PANAMANIAN POLITICS, Robert C. Harding II, Transaction Publishers, New Brunswick, NJ, 2001, 233 pages, $39.95.

Any discussion of Latin American politics would be incomplete without parallel dialogues on Latin American militaries and U.S. influence in the region; all are irrevocably intertwined, mutually supporting, and communally corrupting. Robert C. Harding's *Military Foundations of Panamanian Politics* documents this compelling triumvirate and explores the historical relationships between Panamanian military and civilian institutions, as well as the significant role of the United States in Panama's difficult democratic evolution.

An assistant professor of international relations and Spanish at Lynchburg College, Virginia, Harding provides a focused, methodical study of the Panamanian military, whose prominent influence on the politics of the nation culminated in the 1968

coup and complete breakdown of democracy in Panama. In its quest for autonomy and independence, Panama has much in common with its Latin American neighbors, yet its central hemispheric location—specifically the Panama Canal—afforded the country international significance during much of the 20th century. Panama's struggles were played on the world stage, and its *caudillos* were world players.

Unique for its focus on the military's influence, the book provides an uncharacteristically frank assessment of the United States's role in Panama's development. Howard J. Wiarda in *Democracy and its Discontents: Development, Interdependence, and U.S. Policy in Latin America* (Rowman and Littlefield Publishers, Inc., Lanham, MD, 1995) says that America's irregular, inconsistent policy, alternating between benign neglect and dramatic intervention, profoundly affected the changes in leadership there. Harding does well in highlighting the consequences of well-intended but fickle U.S. policy initiatives such as the Monroe Doctrine, Teddy Roosevelt's Big Stick, and the Mann Doctrine—"A buck in the pocket and a kick in the ass." That a perverted form of militaristic democracy developed in the region is no surprise.

As Harding clearly recognizes, modern Panama is very much a reflection of its century-long struggle to balance civilian democratic institutions, military intervention, and U.S. influence. The canal, now fully Panamanian owned and operated, carries great economic benefit and is symbolic of a nation reborn, wrought with nationalistic potential. But the military pendulum might now have swung too far. Panama's democracy is still fragile, threatened not by internal groups, but by regional and transnational narcotics operations and insurgencies, particularly spillover from Colombia. Panama no longer has a military force, and there is no U.S. military presence to deter such threats.

Harding's book is important reading for policymakers trying to shape and support emerging democracies in Latin America. Most important, the book carries a warning about the consequences of failed or even forgotten policies in the region.

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MANAGING THE REVOLUTION IN MILITARY AFFAIRS, Ron Matthews and John Treddenick, eds., Palgrave, NY, 2001, 273 pages, $75.00.

Managing the Revolution in Military Affairs, which surveys a broad range of issues within today's rapidly changing military environment, includes discussions on the idea of the revolution; its implications; economic and financial issues; changes in system acquisition and technology; and the views of Russian and Chinese militaries. The primary focus is on European, especially British, perspectives with respect to the standard of military capability established by the United States. An expert in a particular field of study writes each chapter.

Instead of attempting to explore long-range geopolitical implications and causes of recent significant changes in warfare, the authors focus on the changes that have occurred in the U.S. defense process and the direct causes of those changes. The essayists review in detail such events as drastic increases in command and control expenditures and acquisition reform. The writers make multiple comparisons of current and planned U.S. expenditures and methods to those planned and used in Western European countries.

The editors' purpose is to fill a perceived gap. They feel that no previous work has systematically covered the wide range of issues the revolution in military affairs (RMA) includes and that this must be dealt with if Europeans are to maintain their ability to operate alongside U.S. forces. From this perspective, the authors have succeeded. They outline many of the key issues facing defense establishments in the near future by reviewing the different aspects of U.S. system development and procurement as a guide to discussing areas in which European countries should focus in the immediate future. This approach leads to a volume that is in many ways a concise encyclopedia of U.S. activities and plans relating to military procurement and organizational structure.

Manuel De Landa in *War in the Age of Intelligent Machines* (Urzone Inc., New York, 1991), traces the history of several different families of modern weapon systems in order to explore the driving factors behind ongoing changes in warfare. *Managing the Revolution in Military Affairs*, however, offers only a cursory glance into different functional areas affecting ongoing changes in warfare. This leaves one asking for deeper explanations of how and why these parallel actions by the United States have resulted in such a dramatic increase in capability as compared to those of European countries.

The chapters dealing with Russia and China, although presented almost as an afterthought, are in some ways the most revealing. Not only do the authors provide a concise summary of the state of affairs in these nations' defense establishments, they explore some of the detailed goals these two critical countries have outlined for the future. The chapter on China by Dennis J. Blasko is especially useful in that it lays out the Chinese perspective on U.S. capabilities and their planned response. He describes the transformations, variables, and specific focus areas that the Chinese research and development establishment has undertaken to create a People's Liberation Army capable of defending China "if necessary, some distance from its shores."

While none of the analyses and figures is surprising, nor even overly insightful, the book succeeds in creating a handy reference for those working outside the U.S. defense establishment who do not require in-depth information on a given topic. The scope of the book is broad, which enhances the encyclopedic effect and further detracts from the depth of analysis.

Although short on analysis, *Managing the Revolution in Military Affairs* is useful for those who need an introduction to the various aspects of the organizational issues that have produced the U.S. lead in

warfighting technology. However, it will not provide any new revelations to those who work these issues on a daily basis.

MAJ Chris D. Crawford, ***USAF, Fort Leavenworth, Kansas***

COMMANDING CHANGE: War Winning Strategies for Organizational Change, Murray Davies, Praeger, Westport, CT, 2001, $62.50.

The dynamics that force organizational change in the civilian sector are normally judged on the ability to gain profits. Military units that encounter the dynamics of change on the battlefield can be trapped because of the inability to divert from outmoded doctrine or obsolete weapons systems. Murray Davies tackles the problem of military organizational change in *Commanding Change: War Winning Military Strategies for Organizational Change*. He discusses what motivates military organizations to seek alternatives to meet new doctrinal and technological threats by comparing and contrasting similar changes in corporations. Corporations seek change to increase profits. The military seeks change to save lives and to achieve victory.

Davies analyzes several historical case studies to find organizational commonalities to each change, discussing each evolution or revolution of military affairs that leads to what he calls Military Change Management Strategy (MCMS). The MCMS forms the baseline for military organizational change, defeating the distracters that would adversely affect the goal of modernizing weapons or doctrine. The MCMS then leads to a Military Change Management Plan (MCMP), and Davies sees it as one under constant evolution as information and technology continue to develop. However, his MCMP principles can be used as a guide to effect change working within the dimensions of human behavior and time. The final dynamic of leadership concludes his book, for he recognizes that without leadership, any change to an organization is fruitless.

Davies writes well on the evolution and revolution of military affairs and how they relate to organizational change. However, he uses a weak argument when he tries to analogize military and civilian sector change. His chapter "Military Versus Civilian Change" asserts only that in the civilian sector, change is brought about by a decline in profits. He does not provide any concrete historical examples of change in the civilian sector as he does in the military profession that would strengthen his argument. Despite this weakness, Davies provides a good treatment of military organizational change, and he discusses how to surmount those forces that detract from alternatives in how we will fight on future battlefields.

MAJ Mark L Shepard, USA, ***Fort Leavenworth, Kansas***

WAR OVER KOSOVO: Politics and Strategy in a Global Age, Andrew J. Bacevich and Eliot A. Cohen, eds., Columbia University Press, NY, 2001, 223 pages, $22.50.

What is the only shooting war that NATO has fought? Has America ever fought a war without a combat casualty? Has America ever fought a war without a bona fide military hero emerging? Has America ever fought a war for primarily humanitarian reasons? *War Over Kosovo* answers all of these questions and more.

The review of the facts surrounding the 1999 U.S.-led NATO air war is useful, but the beauty of the book is its insightful analysis of the grand security strategy implications for the United States and the world. *War Over Kosovo* is a compendium of seven erudite national strategy thinkers. The authors' unifying proposition is that the Kosovo war is worthy of study because of the implications it holds for the "way developed countries will wage war in years to come." Their predictive analysis is accurate when viewed in light of the current war against global terrorism.

Essayist William Arkin begins the study with a thorough narrative and analysis of the predominantly air campaign. His discourse on the problems of near-instantaneous information and its effect on decisionmaking highlight his analysis. He recounts the delicate decisionmaking among the NATO coalition's high command and the reservation of a critical targeting decision at the U.S. National Command Authority level.

Eliot Cohen discusses the real disconnect between U.S. Cold War doctrine and the new way of war evident in the Kosovo campaign. He also reviews the phenomenon of casualty sensitivity plus an imbalance in U.S. high-level civil-military relations.

James Kurth postulates effectively that the Kosovo war was the first campaign in a new U.S. global grand strategy. He sees a grand strategy that portends a rise in new types of institutional ideological objectives rather than traditional security and economic objectives. He cautions against this new type of strategy, asserting that the Kosovo war was thrice flawed because it was fought to enlarge NATO, was justified as a humanitarian campaign, and essentially disregarded Russia and China.

Anatol Lieven echoes Kurth's admonishment of a neo-imperial strategy for the West, and he explores the proposition that the vaunted U.S. and NATO military superiority is potentially more relative than absolute. He underscores the necessity of combining technology with stamina, casualties, ruthlessness, and adaptability and forecasts that urban combat against well-armed nonstate actors is the near-term challenge for the West.

Alberto R. Coll analyzes the moral dimension of warfare that the Kosovo campaign faced. Was there just cause to intervene militarily to end the ethnic cleansing? Did NATO have the lawful authority? Was war NATO's last resort? Did NATO use morally justifiable means in the conduct of the war? Was this campaign a manifestation of new moral obligations for the United States? Coll answers these questions and efficiently encapsulates the morality debate. Andrew Bacevich sees resurgence, à la Vietnam, in a troubled relationship between Carl von Clausewitz's "remarkable trinity" of the state, people, and army (military). Bacevich postulates that the need to balance the trinity might be beyond American interests. If so, Bacevich deduces that it foreshadows immense difficulties for U.S. security strategy.

Michael Vickers places the use of technology in the war within the cur-

rent debate of a revolution in military affairs (RMA). He reasons that the neglect in changing Cold War doctrine has left the RMA unfulfilled. He argues that the campaign in Kosovo underscored the necessity for transforming organization and doctrine within the military.

Not only do I recommend *War Over Kosovo*, I feel it is imperative that all military professionals internalize the book's conclusions. The analyses are prescient, complementary, and well supported. Study of the profession of arms demands that this wise work by seven national strategy thinkers be included in any professional library.

MAJ Michael A. Wormley, *USAF, Fort Leavenworth, Kansas*

KOREA'S FUTURE AND THE GREAT POWERS, Nicholas Eberstadt and Richard J. Ellings, eds., University of Washington Press: Seattle, 2001, 361 pages, $22.95.

Among the foremost of security issues in Asia, indeed the world, is the future of the Korean peninsula and its 67 million inhabitants. The question of reunification presents serious issues. In *Korea's Future and the Great Powers*, editors Nicholas Eberstadt and Richard J. Ellings, under the auspices of The National Bureau of Asian Research, compiled a superb collection of articles and essays by leading scholars and diplomats of Asian security.

At the crossroads of northeast Asia, astride both China and Japan, Korea has long concerned all who have an interest in Pacific peace and prosperity. The nations with historical and current vital interests in Korea include China, Japan, Russia, and the United States. All have fought wars in the past century either directly or indirectly because of the Korean peninsula's strategic value. The current 50-year-old standoff between south and north causes great concern and substantial investment in manpower, political capital, and real capital of all these powers. Within that context, this book provides a comprehensive evaluation of almost every aspect of Korea's possible futures.

Not enough has been written in the United States on how to resolve the tension between the prosperous Republic of Korea and the failing, but dangerous, Democratic Peoples Republic of Korea. What future scenarios imply for Asian security and the great powers has also not been addressed adequately. This book, which fills these requirements successfully, contains a range of essays in which scholars, diplomats, and economists deliver a comprehensive overview of the salient issues of the Korean problem. The issues the essayists discuss range from the economic costs of reunification to the effects of continuing the status quo and how these influence the power balance between the great powers. Specific articles address Korean reunification, and the overall security environment of northeast Asia receives adequate treatment as well.

This book provides enlightening views about complex issues and should be on the desk of every diplomat, strategist, and national security functionary.

MAJ William Todd Harmon, *USA, Fort Leavenworth, Kansas*

IMPROVING ARMY PLANNING FOR FUTURE MULTINATIONAL COALITION OPERATIONS, Thomas S. Szayna, Frances M. Lussier, Krista Magras, Olga Oliker, Michele Zanini, Robert Howe, Rand, Santa Monica, CA, 2001, 346 pages, $25.00.

In this book, the authors' thesis is that a more effective mechanism to manage Army resources for international activities (IA) is necessary to enable a more efficient prioritization of multinational force compatibility (MFC) efforts that contribute to the successful planning and conduct of combined operations. The study, conducted by Rand analysts, supports Department of the Army (DA) IA planning intended to enhance ground coalition operations. The authors identify better administrative mechanisms and processes with which to develop an empirically based, long-term MFC plan.

A large portion of the publication is dedicated to regionally organized, graphic and concisely worded country evaluations indicating each state's proclivity to participate with the United States in a multinational operation. The authors offer their analyses as a way to identify enduring coalition partnerships, to isolate interoperability shortcomings of potential partners, to match cooperative efforts to specific shortcomings, and to assess the cost effectiveness of IA programs. Ultimately, the Rand researchers posit that Army preparations for cooperation with other armies, based on knowledge of partner-state contribution capabilities, facilitate proper resourcing and effective execution of Title 10 requirements.

The authors highlight the trend toward coalition operations as a preface to the relevance of their research on MFC. Rand points to the importance of being able to accurately identify willing coalition partners and to prioritize focused programs to achieve operational compatibility at targeted levels of the mission spectrum. To perform this process effectively and globally with finite resources, DA should play a stronger role in the theater security cooperation planning process to achieve national-level goals for improving coalition readiness. The text notes that it is currently problematic to affect such a process because it is difficult to determine devoted IA funds and even more difficult to monitor and influence IA funding allotments since international activities are integrated within such a large part of Army operations. Rand advocates a more integrated system for planning Army MFC efforts and the subsequent development of a long-term MFC plan.

The authors convincingly support their theme of enhancing Army processes to effectively manage IA and MFC efforts with a methodical approach and a fairly well explained data set of 109 potential coalition partners. The authors' effectiveness is best exemplified by the combination of analytical rigor and logic applied in developing a prioritized, tiered list of potential contributors to coalition operations, which correlates multiple variables to measure states' propensity to offer compatible forces.

Sponsored by the Military Deputy to the Deputy Undersecretary of the Army for International Affairs (DUSA-IA). The study's value and

credibility is enhanced by the cooperation of the DUSA-IA staff as well as that from other DA, Joint Staff, and Office of the Secretary of Defense personnel.

This study provides value to military and defense professionals concerned with U.S. Army operations at national and theater levels. The thorough, concise country data offers utility as a quick reference for those vested in the compatibility and interoperability of prospective coalition ground forces. Thus, the research is most germane to the Army, but it could also serve the interests of U.S. unified commands and the Joint Staff.

MAJ Vincent Lee Freeman, Jr.,
USA, Fort Leavenworth, Kansas

IRAN'S SECURITY POLICY IN THE POST-REVOLUTIONARY ERA, Daniel L. Byman, Shahram Chubin, Anoushiravan Ehteshami, and Jerold Green, Rand, Santa Monica, CA, 2001, 133 pages, $15.00.

Iran's Security Policy in the Post-Revolutionary Era is another excellent work from the Rand Corporation. Daniel L. Byman and his team have produced a clear, concise study that explains in detail the changing nature of Iran's security policy. They begin with the sources of Iran's security policy, including ideological as well as internal and external factors. The team also examines Iran's military institutions; the regular armed forces (the Artesh) and the Islamic Revolutionary Guard Corps (IRGC); their agendas; and their positions in the decisionmaking system. The authors detail these military institutions' relationships and interactions with Iran's informal, convoluted decisionmaking system. Finally, the authors examine the actual policies produced to develop an understanding of the character of Iran's security policy today and how Iran's policies have changed over the last 20 years.

After conducting this exploration of Iran's behavior, the Rand team shows that Iranian security policymakers have shifted from the adventurism of their early years to more cautious and prudent policies. The fervor of Islamic fundamentalism and Persian nationalism were the two primary drivers of Iran's security policy. But their security policy has changed. The primary drivers today are geopolitics, ethnicity, and economics. As Byman and his team show, Iran's behavior now is more aimed at preserving the state and the political regime than at exporting and invigorating a worldwide Islamic revolution.

The authors cover in detail Iran's foreign policy with Iraq; Russia; China; Turkey; Afghanistan; Pakistan; the Gulf States; Central Asia and the Caucasus; Syria and Lebanon; Israel; Europe; and the United States. They also examine Iran's pursuit of weapons of mass destruction and missiles and the country's policies toward Islamic radicals and explain the transitions that Iranian military institutions have undergone since the revolution. The IRGC has become more professional, shifting from protecting the revolutionary government to protecting the state itself, internally and externally. The IRGC operates and supports Islamic uprisings in other states. As Byman and his team show, Iran operates and supports these groups more for geopolitical reasons and less for ideological ones.

Closely examining these policies and the shifts in Iran's military institutions reveals a number of key points that the authors outline. Most important, "The Islamic Republic is increasingly prudent, Iran's policies toward Israel and the United States are often the exception to its overall shift toward prudence, and Iran's ideology is often a mask for realpolitik." At the most basic level, the sources of adventurism—Islam and Persian nationalism—still exist, but their effect on Iran's foreign and security policy has diminished. Concerns about Iraqi aggression, ethnic separatist movements, and economic problems have moved Iran away from pursuing ideological goals to pursuing more practical and cautious goals.

The authors are extremely thorough in their exploration of Iran's behavior and policymaking system and quite effective in revealing the underlying causes of its policy shifts. The only drawback is that the book was published before the events of 11 September 2001, and so does not capture the effects of the many subsequent events that have greatly affected Iranian security.

Overall this book is a wealth of information in a compact, easily understandable form. Any military or Department of Defense professional who needs to rapidly develop an understanding of Iran's military institutions, policy formulation, and security policy since their revolution more than 20 years ago will find the book insightful and useful.

MAJ James Gavrilis, *USA,*
Fort Leavenworth, Kansas

SOLDIERS AND CIVILIANS: The Civil-Military Gap and American National Security, Peter D. Feaver and Richard H. Kohn, eds., The MIT Press, Cambridge, MA, 2001, 545 pages, $28.95.

The national debate on U.S. civil-military relations is alive and heated in Peter D. Feaver and Richard H. Kohn's book *Soldiers and Civilians: The Civil-Military Gap and American National Security.* As the title suggests, the book discusses the increasing divide between soldiers, specifically the senior officer corps, and U.S. society, specifically civilian elite society. Although the findings of the book do not substantiate what some have termed a crisis in civil-military affairs, they do find schisms between the two that might, if not addressed, lead to a crisis.

The book is a compilation of several multidisciplinary studies that aim to answer the following questions:

- What is the nature or character of the civil-military gap today?
- What factors shape it?
- Does the gap matter for military effectiveness and civil-military cooperation?
- What, if anything, can and should policymakers do about the gap?

The authors obtained the research data for their work through a survey instrument completed by the Triangle Institute for Strategic Studies. Surveying what they considered military and civilian elites, the authors analyzed the survey data and chose 12 of 21 studies to publish. Those studies make up the chapters in the book and are clustered into three sections, each with four chapters.

One section addresses the opinions of the soldiers and civilians surveyed. One section explores the gap in civil-military relations over time—a brief history if you will. The final section explores what implications the gaps have on military effectiveness and the cooperation between civilians and the military.

What the reader will find in this important, scholarly work is that there is a chasm between the military and the civilians it serves. The divide, argue the writers, makes it harder to recruit soldiers; makes it easier for midcareerists to leave the military before retirement because of disillusionment; and makes obtaining funds from Congress difficult.

The authors also discuss many of the problems the average soldier faces, such as high operating tempo and personnel tempo; the difficulty of integrating policies like "don't ask, don't tell" into military values; and the apparent disconnect in military values with those of mainstream society's. Some soldiers might read the findings and believe them intuitively obvious. For instance, the average soldier tends to be more conservative than the average civilian; most officers are inclined to be Republican; that the military believes that the Nation's political leaders are ignorant about military affairs. What is especially useful, however, is that the book puts those issues out for debate. Not that the debate is new. One writer points out that the debate goes back to 1776 when Samuel Adams suggested that soldiers and citizens are distinctively different and that the former "should be watched with a jealous eye" by the latter.

The book presents much research data that help frame the issues perpetuating the gap between civil-military relations. Although the 9/11 terror attacks have largely placed the debate on the back burner because of the subsequent tremendous cooperation between civilian authorities and senior military leaders, the problems that Feaver and Kohn identify remain.

The solutions the authors propose are fairly straightforward and achievable. They suggest that the military increase its presence in civil society; improve civilian understanding of military affairs; and strengthen civil-military instruction in professional military education. Through such measures, the gap in understanding can be narrowed.

This is an important book for professional soldiers because the military perspective is often missing in the civil-military debate. The authors have superbly outlined the issues, giving them historical dimension. Most important, the authors articulate the problems as seen through the scope of academia, which naturally facilitates an analysis through military lenses, a logical and needed next step. Quite simply, this is a debate in which professional soldiers should be involved, if not as participants, then certainly as followers of the argument. The issue directly affects the military profession. If civilian elites perceive there are problems, they will likely seek to resolve those problems. If professional soldiers do not engage in the debate, they might have to implement solutions that could perpetuate and enlarge the very gap the solutions aim to close.

MAJ Jesus F. Gomez, *USA,*
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ATLANTA WILL FALL: Sherman, Joe Johnston, and the Yankee Heavy Battalions, Stephen Davis, SR Books, Wilmington, DE, 2001, 215 pages, $55.00.

An Atlanta native and book review editor for *Blue & Gray* magazine, Stephen Davis has written an excellent short history of the decisive Georgia campaign of 1864. Davis covers a large amount of detail in his 214 pages. The result, however is a readable, concise history.

Davis does not let brevity keep him from controversy. He thoroughly reproaches Confederate General Joe Johnston for Johnson's seemingly endless retreating. Davis praises Union General William T. Sherman's actions. Davis also gives a sympathetic treatment of Johnston's successor, Confederate General John Bell Hood and the strategic dilemma he inherited on assuming command of the Army of Tennessee.

On assuming command, Hood was outnumbered three to two; Sherman's armies were within 8 miles of Atlanta and across the last natural obstacle before Atlanta, the Chattahoochee River. Despite these disadvantages, Hood held Atlanta for 6 weeks and did not give up the town without a fight. Davis states that when Hood took command, the fall of the city was inevitable. I believe Davis underestimates the vulnerability of Sherman's logistics. This vulnerability was not exploited, but it could have been.

The book's downside is its price. At $55 for the hardback, the book seems expensive; the paperback, at $17.95, is more reasonably priced. For a balanced treatment of an important and decisive campaign, *Atlanta Will Fall* is well worth reading.

LTC D. Jon White, *USA,*
Fort Leavenworth, Kansas

LETTERS

DOCC—Personnel Recovery

CW5 John D. Wallace, *USA, Fort Hood, Texas*—General Burwell B. Bell's *Military Review* article, "The New DOCC" (January-February 2003), is informative and well thought out. Bell addresses many deep operations coordination cell (DOCC) problem areas such as personnel, equipment, and techniques. One area he does not address is personnel recovery (PR). Combatant commanders today direct all units in their areas of responsibility (AOR) to conduct personnel recovery in support of their own operations. If a corps is "JSCP'd" [Joint Strategic Capabilities Plan] against a theater, its commander should take the time to read the joint task list and initial AOR-entry PR requirements. A corps' PR programs

has strategic, operational, and tactical implications, and it stretches the corps PR battlespace from the seaport of debarkation through the ground component's command's forward boundary. Success in personnel recovery will not be achieved by assigning the task to the next available liaison officer.

I suggest that the hub of a viable corps PR program reside in a rescue coordination center in the corps DOCC fusion cell, and that the rescue coordination center position, located within the G3 Air, be staffed by an aviation Chief Warrant Officer 5 with a career field designation "I" or by a tactical operations officer. If staffed by a nonaviation operations officer, the officer should be trained through the Joint Targeting Staff Course, the Joint Search and Rescue Coordinator Course, the Joint Aerospace Command and Control Course, and the Joint Personnel Recovery Agency PR (JPRA) 101/301. The tactical operations officer can provide the corps plans and fusion cell staffs with long-term planning and execution-related institutional knowledge of aviation and PR subject matter. The tactical operations officer should work in the fusion cell via a personnel recovery mission software, mIRC-capable laptop; Tactical Internet, and digital non-secure voice terminal while tethered to the plans cell.

I recommend the corps rescue coordination center position be created by modifying the corps HHC MTOE, FC0103, dated 2 October 2002, which is a direct link to other rescue coordination centers, Theater Joint Search and Rescue Center, JPRA, and national support for PR operations. Although considered aviation-centric, personnel recovery, or its subset, combat search and rescue, is often conducted for nontraditional ground customers, as demonstrated recently during Operation Iraqi Freedom. In war or peace, the CW5 tactical operations officer in the corps G3 Air rescue coordination center is the subject matter expert for PR training and operations.